

FCC Test Report  
Videosys Broadcast Ltd  
EUT 02, Model: B160 OEM Boardset  
  
In accordance with FCC 47 CFR Part 74F and  
FCC 47 CFR Part 2



Prepared for: Videosys Broadcast Ltd  
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FCC ID: 2BTAG-B160-2029

COMMERCIAL-IN-CONFIDENCE

Document 75963553-01 Issue 03

| SIGNATURE                                                                                                                   |                           |                      |                 |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------|-----------------|
|                                                                                                                             |                           |                      |                 |
| NAME                                                                                                                        | JOB TITLE                 | RESPONSIBLE FOR      | ISSUE DATE      |
| Steve Marshall                                                                                                              | Senior Engineer           | Authorised Signatory | 23 October 2026 |
| Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules. |                           |                      |                 |
| RESPONSIBLE FOR                                                                                                             | NAME                      | DATE                 | SIGNATURE       |
| Testing                                                                                                                     | George Williams           | 23 October 2026      |                 |
|                                                                                                                             | Wenceslao Acosta Carrazco | 23 October 2026      |                 |
|                                                                                                                             | Ahmad Javid               | 23 October 2026      |                 |
|                                                                                                                             | Hugo Petty                | 23 October 2026      |                 |

FCC Accreditation: 492497/UK2010 Octagon House, Fareham Test Laboratory

**EXECUTIVE SUMMARY / ENGINEERING STATEMENT**  
The measurements shown in this report were made in accordance with the procedures described on the test pages A sample of this product was tested to demonstrate limited compliance with FCC 47 CFR Part 74F and FCC 47 CFR Part 2: 2023 for the tests detailed in section 1.3. The sample tested was found to comply with the requirements defined in the applied rules.

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## 1 Report Summary

### 1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue | Description of Change     | Date of Issue |
|-------|---------------------------|---------------|
| 01    | First version             | 08-Jan-2026   |
| 02    | Corrected frequency range | 02-Mar-2026   |
| 03    | Worst Modulation check    | 23-Oct-2026   |

Table 1

### 1.2 Introduction

|                               |                                                                         |
|-------------------------------|-------------------------------------------------------------------------|
| Applicant                     | Videosys Broadcast Ltd                                                  |
| Manufacturer                  | Videosys Broadcast Ltd                                                  |
| Model Number(s)               | B160 OEM Boardset                                                       |
| Serial Number(s)              | SB111662                                                                |
| Hardware Version(s)           | B160 - v2.0<br>B170 - v1.02<br>2.0-2.9GHz PA                            |
| Software Version(s)           | V4.0                                                                    |
| Number of Samples Tested      | 1                                                                       |
| Test Specification/Issue/Date | FCC 47 CFR Part 74F (2023)<br>FCC 47 CFR Part 2 (2023)                  |
| Order Number                  | 0865                                                                    |
| Date                          | 31-January-2025                                                         |
| Date of Receipt of EUT        | 19-March-2025                                                           |
| Start of Test                 | 01-August-2025                                                          |
| Finish of Test                | 21-October-2026                                                         |
| Name of Engineer(s)           | George Williams, Wenceslao Acosta Carrazco, Ahmad Javid, and Hugo Petty |
| Related Document(s)           | ANSI C63.26: 2015                                                       |



### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 2, and FCC 47 CFR Part 74F is shown below.

| Section                                   | Specification Clause |           | Test Description                        | Result | Comments/Base Standard |
|-------------------------------------------|----------------------|-----------|-----------------------------------------|--------|------------------------|
|                                           | Part 2               | Part 74   |                                         |        |                        |
| Configuration and Mode: 2.1GHz - transmit |                      |           |                                         |        |                        |
| 2.1                                       | 2.1046               | 74.636    | Power and Emissions                     | Pass   | ANSI C63.26: 2015      |
| 2.2                                       | 2.1055               | 74.661    | Frequency Stability                     | Pass   | ANSI C63.26: 2015      |
| 2.3                                       | 2.1049               | 74.637(g) | Bandwidth Limitations                   | Pass   | ANSI C63.26: 2015      |
| 2.4                                       | 2.1051               | 74.637(a) | Spurious Emissions at Antenna Terminals | Pass   | ANSI C63.26: 2015      |
| 2.5                                       | 2.1053               | 74.637(a) | Radiated Spurious Emissions             | Pass   | ANSI C63.26: 2015      |

**Table 2**

## 1.4 Customer Supplied Form

### Equipment Description

|                                                                                                                                                            |                                            |                                                                                                               |                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Technical Description:<br><i>(Please provide a brief description of the intended use of the equipment including the technologies the product supports)</i> |                                            | Industry-leading camera control to create a powerful unit suitable for demanding live broadcast environments. |                                           |
| Manufacturer:                                                                                                                                              |                                            | DTC                                                                                                           |                                           |
| Model:                                                                                                                                                     |                                            | B160, B170 & PA                                                                                               |                                           |
| Part Number:                                                                                                                                               |                                            | B160, B170, PA – 2.0-2.9                                                                                      |                                           |
| Hardware Version:                                                                                                                                          |                                            | B160 – V2.0<br>B170 – V1.02<br>2.0 – 2.9 GHz PA                                                               |                                           |
| Software Version:                                                                                                                                          |                                            | V4.0                                                                                                          |                                           |
| FCC ID of the product under test – <a href="#">see guidance here</a>                                                                                       |                                            | 2BTAG-B160-2029                                                                                               |                                           |
| IC ID of the product under test – <a href="#">see guidance here</a>                                                                                        |                                            |                                                                                                               |                                           |
| Device Category                                                                                                                                            | Mobile <input checked="" type="checkbox"/> | Portable <input type="checkbox"/>                                                                             | Fixed <input type="checkbox"/> Integrated |
| Equipment is fitted with an Audio Low Pass Filter                                                                                                          |                                            | Yes <input type="checkbox"/>                                                                                  | No <input checked="" type="checkbox"/>    |

**Table 3**

### Intentional Radiators

|                                                                                                   |                    |
|---------------------------------------------------------------------------------------------------|--------------------|
| Technology                                                                                        | COFDM – DVB-T      |
| Frequency Range (MHz to MHz)                                                                      | 2025-2110 MHz      |
| Conducted Declared Output Power (dBm)                                                             | 20dBm              |
| Antenna Gain (dBi)                                                                                | 3dBi               |
| Supported Bandwidth(s) (MHz) (e.g. 1 MHz, 20 MHz, 40 MHz)                                         | 8MHz               |
| Modulation Scheme(s) (e.g. GFSK, QPSK etc)                                                        | QPSK, 16QAM, 64QAM |
| ITU Emission Designator ( <a href="#">see guidance here</a> ) (not mandatory for Part 15 devices) | N/A                |
| Bottom Frequency (MHz)                                                                            | 2025 MHz           |
| Middle Frequency (MHz)                                                                            | 2067.5 MHz         |
| Top Frequency (MHz)                                                                               | 2110 MHz           |

**Table 4**



### Un-intentional Radiators

|                                                                                                                    |          |
|--------------------------------------------------------------------------------------------------------------------|----------|
| Highest frequency generated or used in the device or on which the device operates or tunes                         | 2908 MHz |
| Lowest frequency generated or used in the device or on which the device operates or tunes                          | 1992 MHz |
| Class A Digital Device (Use in commercial, industrial or business environment) <input checked="" type="checkbox"/> |          |
| Class B Digital Device (Use in residential environment only) <input type="checkbox"/>                              |          |

**Table 5**

### AC Power Source

|                                                                            |     |    |
|----------------------------------------------------------------------------|-----|----|
| AC supply frequency:                                                       | N/A | Hz |
| Voltage                                                                    | N/A | V  |
| Max current:                                                               | N/A | A  |
| Single Phase <input type="checkbox"/> Three Phase <input type="checkbox"/> |     |    |

**Table 6**

### DC Power Source

|                        |    |   |
|------------------------|----|---|
| Nominal voltage:       | 12 | V |
| Extreme upper voltage: | 35 | V |
| Extreme lower voltage: | 9  | V |
| Max current:           | 2  | A |

**Table 7**

### Battery Power Source

|                                                                                                                                                                                                        |                |                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------|
| Voltage:                                                                                                                                                                                               | N/A            | V                                             |
| End-point voltage:                                                                                                                                                                                     | N/A            | V (Point at which the battery will terminate) |
| Alkaline <input type="checkbox"/> Leclanche <input type="checkbox"/> Lithium <input type="checkbox"/> Nickel Cadmium <input type="checkbox"/> Lead Acid* <input type="checkbox"/> *(Vehicle regulated) |                |                                               |
| Other <input type="checkbox"/>                                                                                                                                                                         | Please detail: |                                               |

**Table 8**

### Charging

|                                           |                                                          |
|-------------------------------------------|----------------------------------------------------------|
| Can the EUT transmit whilst being charged | Yes <input type="checkbox"/> No <input type="checkbox"/> |
|-------------------------------------------|----------------------------------------------------------|

**Table 9**

### Temperature

|              |                                                                                               |
|--------------|-----------------------------------------------------------------------------------------------|
| Temperature: | FPGA: 0 to +85degC<br>PSU: -40 to +125degC<br>M30: 0 to +85degC<br>Processor: -40 to +105degC |
|--------------|-----------------------------------------------------------------------------------------------|

**Table 10**

### Cable Loss

|                                          |     |    |
|------------------------------------------|-----|----|
| Adapter Cable Loss<br>(Conducted sample) | N/A | dB |
|------------------------------------------|-----|----|

**Table 11**

### Antenna Characteristics

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |     |                 |         |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|-----------------|---------|-----|
| Antenna connector <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |     | State impedance | 50 Ohms | Ohm |
| Temporary antenna connector <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |     | State impedance | N/A     | Ohm |
| Integral antenna <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type: | N/A | Gain            | N/A     | dBi |
| External antenna <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Type: | SMA | Gain            | 3       | dBi |
| For external antenna only:<br>Standard Antenna Jack <input checked="" type="checkbox"/> If yes, describe how user is prohibited from changing antenna (if not professional installed):<br>Equipment is only ever professionally installed <input checked="" type="checkbox"/><br>Non-standard Antenna Jack <input type="checkbox"/><br>All part 15 applications will need to show how the antenna gain was derived either from a manufacturer data sheet or a measurement. Where the gain of the antenna is inherently accounted for as a result of the measurement, such as field strength measurements on a part 15.249 or 15.231 device, so the gain does not necessarily need to be verified. However, enough information regarding the construction of the antenna shall be provided. Such information maybe photographs, length of wire antenna etc. |       |     |                 |         |     |

**Table 12**



Ancillaries (if applicable)

|               |  |                    |  |
|---------------|--|--------------------|--|
| Manufacturer: |  | Part Number:       |  |
| Model:        |  | Country of Origin: |  |

Table 13

I hereby declare that the information supplied is correct and complete.

Name: Adam Roberton  
Position held: Client Services Director  
Date: 10 February 2025

## 1.5 Product Information

### 1.5.1 Technical Description

OEM video encoder and COFDM transmitter for live broadcast applications.

### 1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

### 1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

| Modification State                                        | Description of Modification still fitted to EUT | Modification Fitted By | Date Modification Fitted |
|-----------------------------------------------------------|-------------------------------------------------|------------------------|--------------------------|
| EUT 02, Model: B160 OEM boardset, Serial Number: SB111662 |                                                 |                        |                          |
| 0                                                         | As supplied by the customer                     | Not Applicable         | Not Applicable           |

**Table 14**

### 1.8 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

| Test Name                                 | Name of Engineer(s)        | Accreditation |
|-------------------------------------------|----------------------------|---------------|
| Configuration and Mode: 2.1GHz - transmit |                            |               |
| Power and Emissions                       | George Williams            | UKAS          |
| Frequency Stability                       | Wenceslao Acosta Carrazco  | UKAS          |
| Bandwidth Limitations                     | George Williams            | UKAS          |
| Spurious Emissions at Antenna Terminals   | George Williams            | UKAS          |
| Radiated Spurious Emissions               | Ahmad Javid and Hugo Petty | UKAS          |

**Table 15**

Laboratory Address: TÜV SÜD, Octagon House,  
Concorde Way, Fareham, Hampshire,  
PO15 5RL, United Kingdom

## 2 Test Details

### 2.1 Power and Emissions

#### 2.1.1 Specification Reference

FCC 47 CFR Part 74F, Clause 74.636  
FCC 47 CFR Part 2, Clause 2.1046

#### 2.1.2 Equipment Under Test and Modification State

B160 OEM boardset, S/N: SB111662 - Modification State 0

#### 2.1.3 Date of Test

01-August-2025 to 21-October-2026

#### 2.1.4 Test Method

This test was performed in accordance with ANSI C63.26, clause 5.2.4.4  
The EUT was powered by 12.0 VDC for the duration of the test.

Worst case modulation investigation showed 64-QAM has highest power emissions, therefore only this was tested. See Annex A for more information.

#### 2.1.5 Environmental Conditions

Ambient Temperature 20.8 - 22.8 °C  
Relative Humidity 41.3 - 62.5 %

#### 2.1.6 Test Results

| Channel Bandwidth (MHz) | Modulation Scheme | Antenna Gain (dBi) | Bottom Channel (2029 MHz) |            | Middle Channel (2067.5 MHz) |            | Top Channel (2106 MHz) |            |
|-------------------------|-------------------|--------------------|---------------------------|------------|-----------------------------|------------|------------------------|------------|
|                         |                   |                    | Tx Power (dBm)            | EIRP (dBm) | Tx Power (dBm)              | EIRP (dBm) | Tx Power (dBm)         | EIRP (dBm) |
| 8.000                   | 64-QAM            | 3.00               | 19.744                    | 22.744     | 20.000                      | 23.000     | 19.945                 | 22.945     |

**Table 16 - Transmitter Power & EIRP Results**

FCC 47 CFR Part 74, Limit Clause 74.636(a)

| Frequency Band (MHz) | Maximum Allowable Transmitter Power (W) | Maximum Allowable EIRP |        |
|----------------------|-----------------------------------------|------------------------|--------|
|                      | Mobile                                  | Fixed                  | Mobile |
| 2025 to 2110         | 12.0 W / 40.8 dBm                       | 45 dBW                 | 35 dBW |

**Table 17 - Specification Limits for Transmitter Power & EIRP**



### 2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

| Instrument                  | Manufacturer          | Type No              | TE No | Calibration Period (months) | Calibration Expires |
|-----------------------------|-----------------------|----------------------|-------|-----------------------------|---------------------|
| Dual Power Supply Unit      | Hewlett Packard       | 6253A                | 271   | -                           | O/P Mon             |
| True RMS Multimeter         | Fluke                 | 79 Series III        | 411   | 12                          | 09-Jan-2026         |
| Hygrometer                  | Rotronic              | I-1000               | 3220  | 12                          | 02-Dec-2025         |
| Network Analyser            | Rohde & Schwarz       | ZVA 40               | 3548  | 12                          | 17-Jul-2027*        |
| True RMS Multimeter         | Fluke                 | 179                  | 4007  | 12                          | 12-Jan-2027*        |
| Calibration Unit            | Rohde & Schwarz       | ZV-Z54               | 4368  | 12                          | 06-Aug-2027*        |
| Quad Power Supply           | Rohde & Schwarz       | HMP4040              | 4955  | -                           | O/P Mon             |
| EXA Signal Analyser         | Keysight Technologies | N9010B               | 4969  | 24                          | 24-April-2028*      |
| 1 MHz / 10 MHz reference    | Quartzlock            | E10-X                | 4973  | 12                          | 06-Oct-2027*        |
| Cable 2.92m                 | Junkosha              | MWX241-01000KMS      | 5412  | 12                          | 06-Jun-2026         |
| Thermo-Hygro-Barometer      | PCE Instruments       | PCE-THB-40           | 5476  | 12                          | 05-May-2027*        |
| Attenuator 5W 30dB DC-18GHz | Aaren                 | AT40A-4041-D18-30    | 5504  | 12                          | 28-July-2027*       |
| Cable (SMA to SMA 1m)       | Junkosha              | MWX221-01000AMSAMS/A | 5514  | 12                          | 31-July-2027*       |
| Attenuator (5 W, 30 dB)     | Aaren                 | AT40A-4041-D18-30    | 6562  | 12                          | 18-Jun-2026         |
| MXA Signal Analyser         | Keysight Technologies | N9020B               | 6876  | 24                          | 31-Aug-2026         |

**Table 18**

O/P Mon – Output Monitored using calibrated equipment

\* Equipment used only to checked worst modulation on the 21<sup>st</sup> of October 2026



## **2.2 Frequency Stability**

### **2.2.1 Specification Reference**

FCC 47 CFR Part 74F, Clause 74.661  
FCC 47 CFR Part 2, Clause 2.1055

### **2.2.2 Equipment Under Test and Modification State**

B160 OEM boardset, S/N: SB111662 - Modification State 0

### **2.2.3 Date of Test**

13-August-2025 to 14-August-2025

### **2.2.4 Test Method**

This test was performed in accordance with ANSI C63.26, clause 5.6.

The EUT was powered with 12 VDC for the duration of the test.

The EUT was connected to a spectrum analyser via a cable and attenuator producing a modulated carrier. The span was set to approx. 1.5 times the nominal occupied bandwidth and the resolution bandwidth set to approx 1%. The detector was set to Peak with a sweep time set to Auto (1.33 ms) and 1000 sweeps were performed. The occupied bandwidth mode was used and the upper and lower boundaries of the 99% occupied bandwidth were used to establish the frequency error.

### **2.2.5 Environmental Conditions**

|                     |         |
|---------------------|---------|
| Ambient Temperature | 23.5 °C |
| Relative Humidity   | 59.9 %  |



## 2.2.6 Test Results

| Voltage | Measured Centre Frequency (MHz) | Frequency Error (ppm) | Frequency Error (%) |
|---------|---------------------------------|-----------------------|---------------------|
| 9 VDC   | 2067.516542                     | 8.000                 | 0.0008000967        |
| 35 VDC  | 2067.504350                     | 2.103                 | 0.0002103748        |

**Table 19 - Frequency Stability Under Voltage Variations, 2067.5 MHz**

| Temperature | Measured Centre Frequency (MHz) | Frequency Error (ppm) | Frequency Error (%) |
|-------------|---------------------------------|-----------------------|---------------------|
| +50.0 °C    | 2067.481745                     | -8.829                | -0.00088295         |
| +40.0 °C    | 2067.493201                     | -3.388                | -0.000328851        |
| +30.0 °C    | 2067.493679                     | -3.057                | -0.000305732        |
| +20.0 °C    | 2067.512599                     | 6.093                 | 0.000609359         |
| +10.0 °C    | 2067.515599                     | 7.544                 | 0.000754462         |
| 0 °C        | 2067.516626                     | 8.041                 | 0.000804135         |
| -10.0 °C    | 2067.520592                     | 9.959                 | 0.000995961         |
| -20.0 °C    | 2067.516762                     | 8.107                 | 0.000810738         |
| -30.0 °C    | 2067.528043                     | 13.563                | 0.001356372         |

**Table 20 - Frequency Stability Under Temperature Variations, 2067.5 MHz**

FCC 47 CFR Part 74, Limit Clause 74.661

Frequency Error Limit:  $\pm 0.005\%$

## 2.2.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

| Instrument                                      | Manufacturer          | Type No              | TE No | Calibration Period (months) | Calibration Expires |
|-------------------------------------------------|-----------------------|----------------------|-------|-----------------------------|---------------------|
| Power Supply Unit                               | Hewlett Packard       | 6267B                | 21    | -                           | O/P Mon             |
| Climatic Chamber                                | Votsch                | VT4002               | 161   | -                           | O/P Mon             |
| Thermocouple Thermometer                        | Fluke                 | 51                   | 3173  | 12                          | 17-Jun-2026         |
| True RMS Multimeter                             | Fluke                 | 179                  | 4007  | 12                          | 10-Dec-2025         |
| Hygrometer                                      | Rotronic              | HP21                 | 4741  | 12                          | 29-May-2026         |
| EXA Signal Analyser                             | Keysight Technologies | N9010B               | 4969  | 24                          | 07-Feb-2026         |
| 1 MHz / 10 MHz reference                        | Quartzlock            | E10-X                | 4973  | 12                          | 03-Sep-2025         |
| Cable (SMA to SMA 3m)                           | Junkosha              | MWX221-03000AMSAMS/B | 6023  | 12                          | 06-Jun-2026         |
| 30dB 10W/18GHz F/M SMA bidirectional Attenuator | Weinschel             | WA41-30-0102         | 7024  | 12                          | 06-Jun-2026         |

**Table 21**

O/P Mon – Output Monitored using calibrated equipment



2.3 Bandwidth Limitations

2.3.1 Specification Reference

FCC 47 CFR Part 74F, Clause 74.637(g)  
FCC 47 CFR Part 2, Clause 2.1049

2.3.2 Equipment Under Test and Modification State

B160 OEM boardset, S/N: SB111662 - Modification State 0

2.3.3 Date of Test

01-August-2025

2.3.4 Test Method

This test was performed in accordance with ANSI C63.26, clause 5.4.4.  
The EUT was powered by 12.0 VDC for the duration of test.

2.3.5 Environmental Conditions

Ambient Temperature 22.8 °C  
Relative Humidity 41.3 %

2.3.6 Test Results

| Nominal Channel Bandwidth (MHz) | Modulation | Bottom Channel (2029 MHz) | Middle Channel (2067.5 MHz) | Top Channel (2106 MHz) |
|---------------------------------|------------|---------------------------|-----------------------------|------------------------|
| 8.0000                          | 64-QAM     | 7.5360                    | 7.5436                      | 7.5372                 |

Table 22 - Occupied Bandwidth Results



Figure 1 - Occupied Bandwidth, 2029 MHz, 8.0000 MHz, 64-QAM

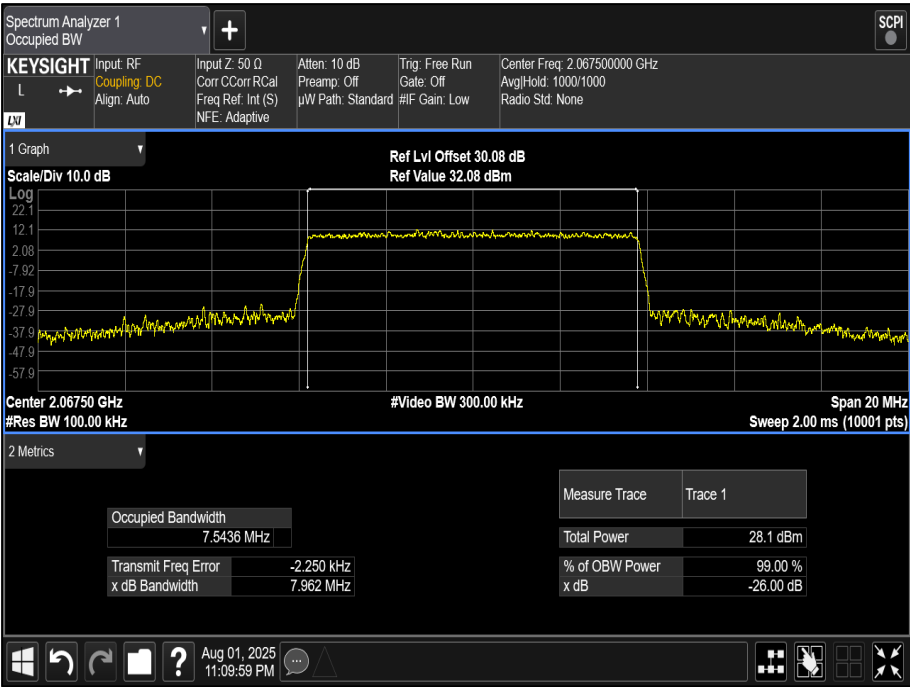


Figure 2 - Occupied Bandwidth, 2067.5 MHz, 8.0000 MHz, 64-QAM

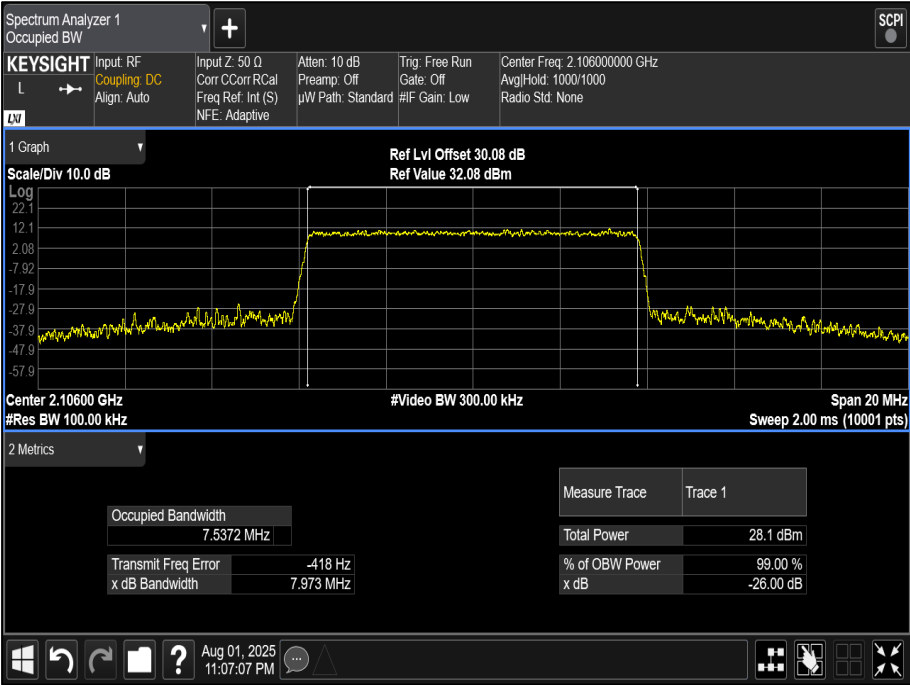


Figure 3 - Occupied Bandwidth, 2106 MHz, 8.0000 MHz, 64-QAM



FCC 47 CFR Part 74, Limit Clause 74.637(g)

Maximum allowed bandwidth: 18 MHz

### 2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

| Instrument              | Manufacturer          | Type No           | TE No | Calibration Period (months) | Calibration Expires |
|-------------------------|-----------------------|-------------------|-------|-----------------------------|---------------------|
| Dual Power Supply Unit  | Hewlett Packard       | 6253A             | 271   | -                           | O/P Mon             |
| True RMS Multimeter     | Fluke                 | 79 Series III     | 411   | 12                          | 09-Jan-2026         |
| Hygrometer              | Rotronic              | I-1000            | 3220  | 12                          | 02-Dec-2025         |
| Cable 2.92m             | Junkosha              | MWX241-01000KMS   | 5412  | 12                          | 06-Jun-2026         |
| Attenuator (5 W, 30 dB) | Aaren                 | AT40A-4041-D18-30 | 6562  | 12                          | 18-Jun-2026         |
| MXA Signal Analyser     | Keysight Technologies | N9020B            | 6876  | 24                          | 31-Aug-2026         |

**Table 23**

O/P Mon – Output Monitored using calibrated equipment



## 2.4 Spurious Emissions at Antenna Terminals

### 2.4.1 Specification Reference

FCC 47 CFR Part 74F, Clause 74.637(a)  
FCC 47 CFR Part 2, Clause 2.1051

### 2.4.2 Equipment Under Test and Modification State

B160 OEM boardset, S/N: SB111662 - Modification State 0

### 2.4.3 Date of Test

01-August-2025

### 2.4.4 Test Method

This test was performed in accordance with ANSI C63.26, clause 5.7.

The EUT uses digital modulation and therefore the requirements of 74.637(a)(2) were applied. For emissions where the frequency is removed less than 250% of the authorized bandwidth measurements were performed conducted as follows:

The EUT was connected to a spectrum analyser via a cable and attenuator. The path loss between the EUT and analyser was calibrated using a network analyser and entered in to the spectrum analyser as a reference level offset. The reference level for the mask was established using the total power measured in accordance with ANSI C63.26 Clause 5.2.4.4. The RBW was then set to 4.3 kHz, with a VBW of 3 times RBW.

For emissions where the frequency is removed more than 250% of the authorized bandwidth measurements were performed conducted as follows:

A network analyser was used to measure the path loss and the worst case was entered as a reference level offset in to the spectrum analyser. The EUT was connected to a spectrum analyser via an attenuator, filter (where required) and cable. The spectrum analyser was configured with an RBW of 100 kHz below 1 GHz and 1 MHz for frequencies greater than 1 GHz with the trace set to max hold using a peak detector.

The EUT was powered by 12.0 VDC for the duration of the test.

### 2.4.5 Environmental Conditions

Ambient Temperature 22.8 °C  
Relative Humidity 41.3 %

### 2.4.6 Test Results

| Nominal Channel Bandwidth (MHz) | Modulation | Emissions within 250% of the authorised bandwidth (Pass/Fail) |                             |                        |
|---------------------------------|------------|---------------------------------------------------------------|-----------------------------|------------------------|
|                                 |            | Bottom Channel (2029 MHz)                                     | Middle Channel (2067.5 MHz) | Top Channel (2106 MHz) |
| 8.0000                          | 64-QAM     | Pass                                                          | Pass                        | Pass                   |

Table 24 - Emissions Mask Results

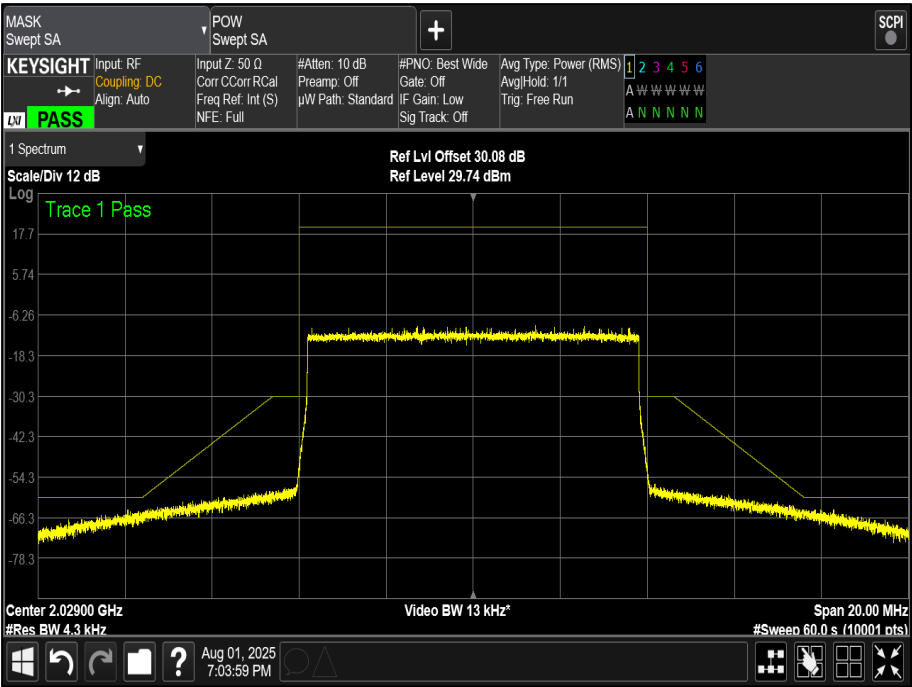


Figure 4 - Emission Mask, Bottom Channel, 8.0000 MHz, 64-QAM

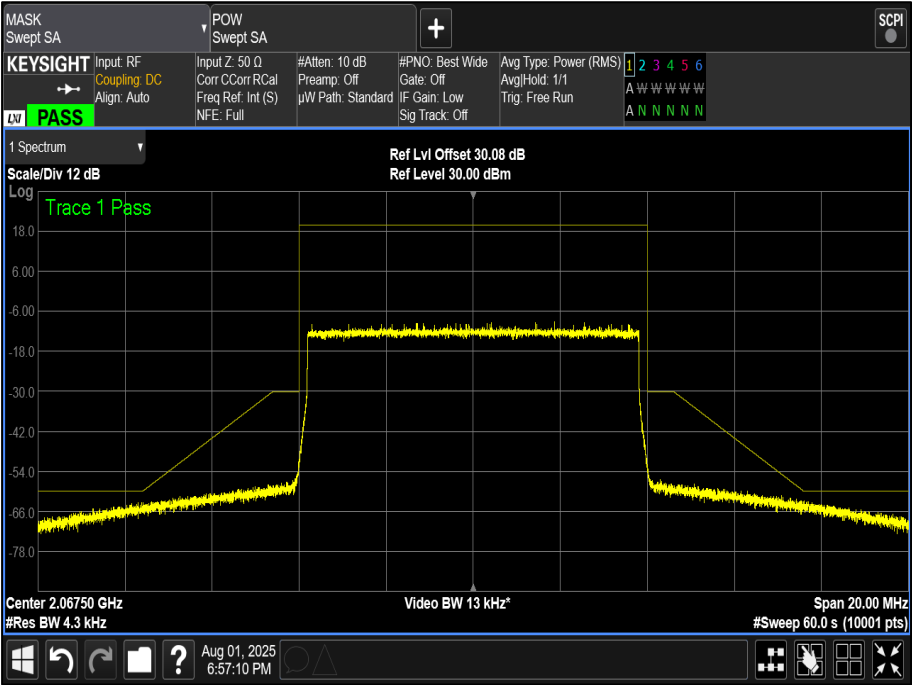


Figure 5 - Emission Mask, Middle Channel, 8.0000 MHz, 64-QAM

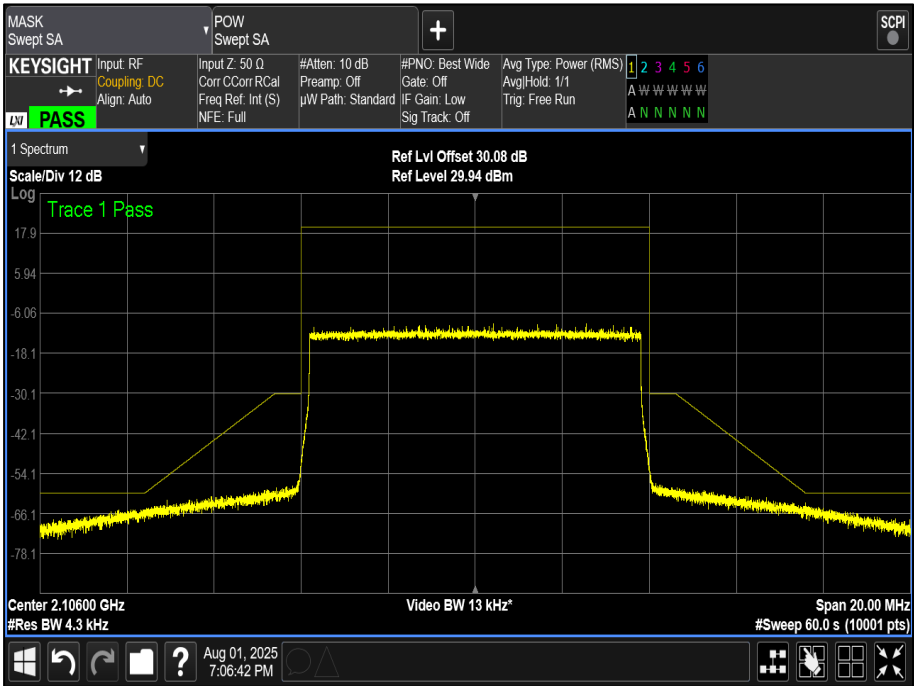


Figure 6 - Emission Mask, Top Channel, 8.0000 MHz, 64-QAM

| Nominal Channel Bandwidth (MHz) | Modulation | Bottom Channel (2029 MHz) |         | Middle Channel (2067.5 MHz) |         | Top Channel (2106 MHz) |         |
|---------------------------------|------------|---------------------------|---------|-----------------------------|---------|------------------------|---------|
|                                 |            | Frequency Range           | Verdict | Frequency Range             | Verdict | Frequency Range        | Verdict |
| 8.0000                          | 64-QAM     | 9 kHz to 150 kHz          | Pass    | 9 kHz to 150 kHz            | Pass    | 9 kHz to 150 kHz       | Pass    |
| 8.0000                          | 64-QAM     | 150 kHz to 30 MHz         | Pass    | 150 kHz to 30 MHz           | Pass    | 150 kHz to 30 MHz      | Pass    |
| 8.0000                          | 64-QAM     | 30 MHz to 1 GHz           | Pass    | 30 MHz to 1 GHz             | Pass    | 30 MHz to 1 GHz        | Pass    |
| 8.0000                          | 64-QAM     | 1 GHz to 3 GHz            | Pass    | 1 GHz to 3 GHz              | Pass    | 1 GHz to 3 GHz         | Pass    |
| 8.0000                          | 64-QAM     | 3 GHz to 8 GHz            | Pass    | 3 GHz to 8 GHz              | Pass    | 3 GHz to 8 GHz         | Pass    |
| 8.0000                          | 64-QAM     | 8 GHz to 18 GHz           | Pass    | 8 GHz to 18 GHz             | Pass    | 8 GHz to 18 GHz        | Pass    |
| 8.0000                          | 64-QAM     | 18 GHz to 22 GHz          | Pass    | 18 GHz to 22 GHz            | Pass    | 18 GHz to 22 GHz       | Pass    |

Table 25 - Emissions > 250% of the Authorised Bandwidth

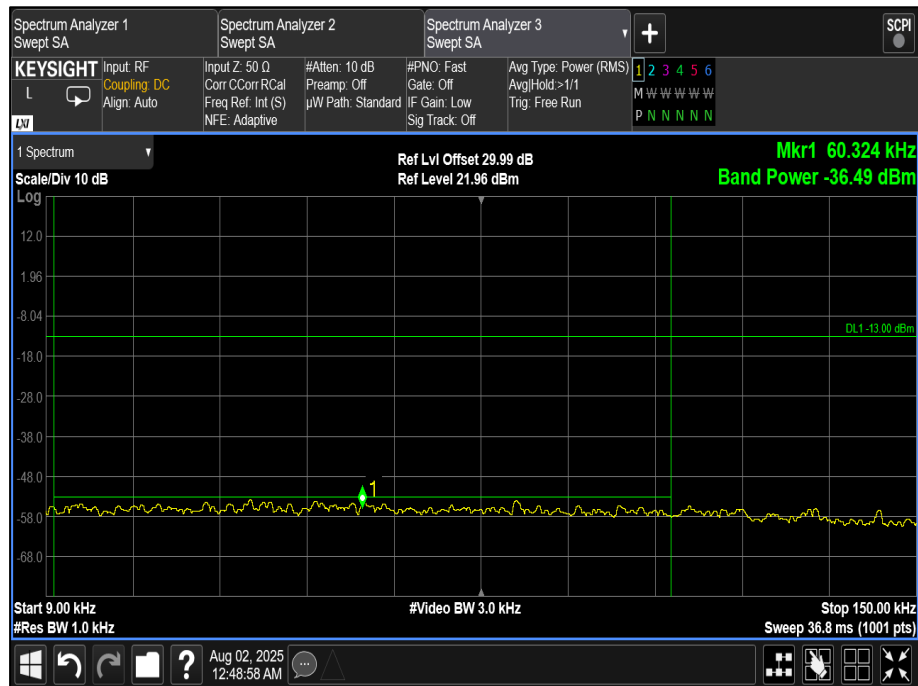


Figure 7 - 9 kHz to 150 kHz, Bottom Channel, 8.0000 MHz, 64-QAM

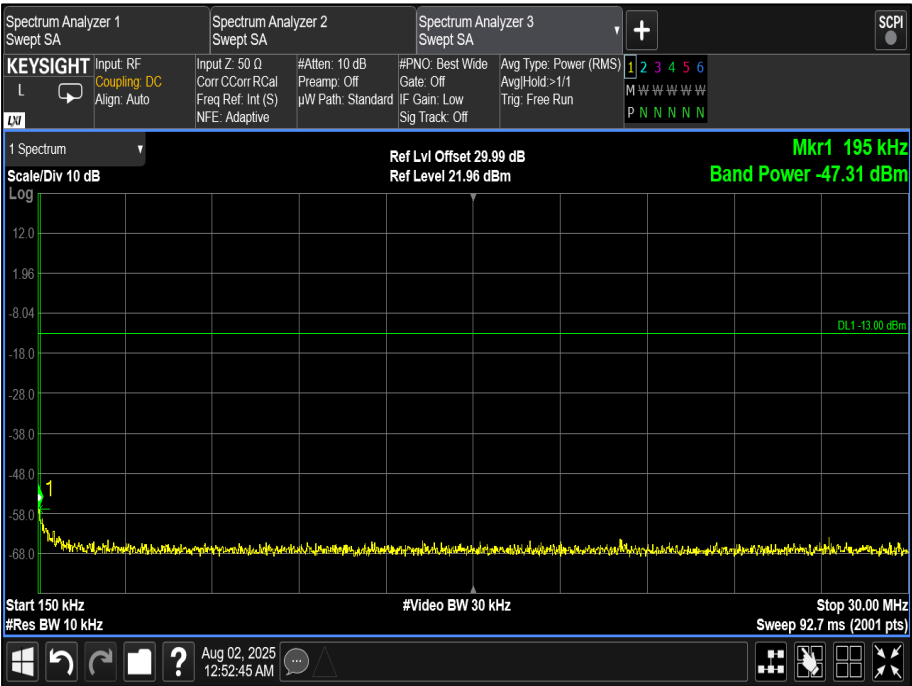


Figure 8 - 150 kHz to 30 MHz, Bottom Channel, 8.0000 MHz, 64-QAM

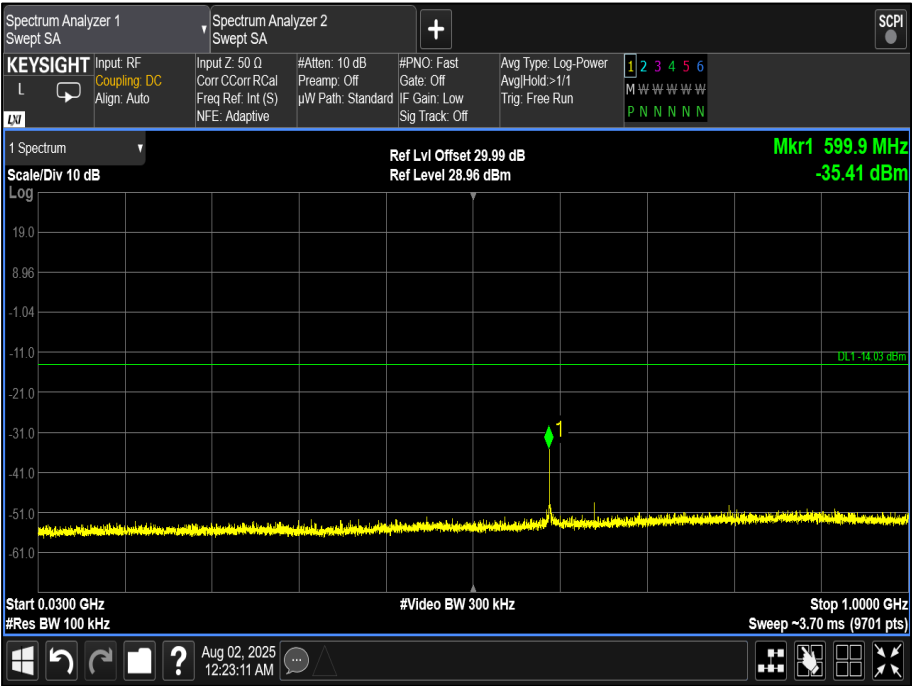


Figure 9 - 30 MHz to 1 GHz, Bottom Channel, 8.0000 MHz, 64-QAM

Note: Due to the reference level offset being changed, the Display Line was mistakenly left at -14.03dBm, the regulatory limit for this range is -13dBm.

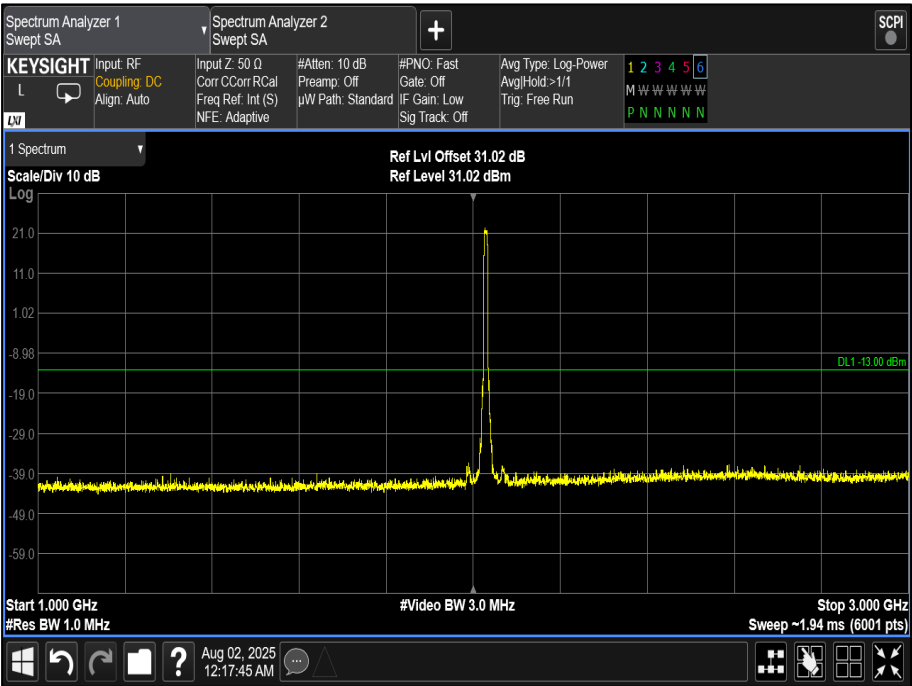


Figure 10 - 1 GHz to 3 GHz, Bottom Channel, 8.0000 MHz, 64-QAM

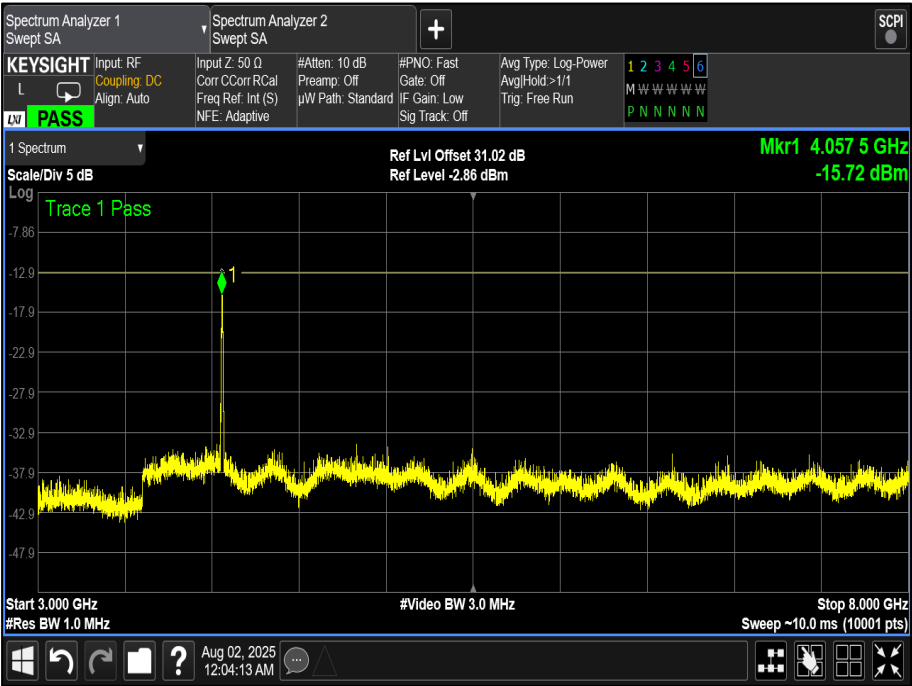


Figure 11 - 3 GHz to 8 GHz, Bottom Channel, 8.0000 MHz, 64-QAM

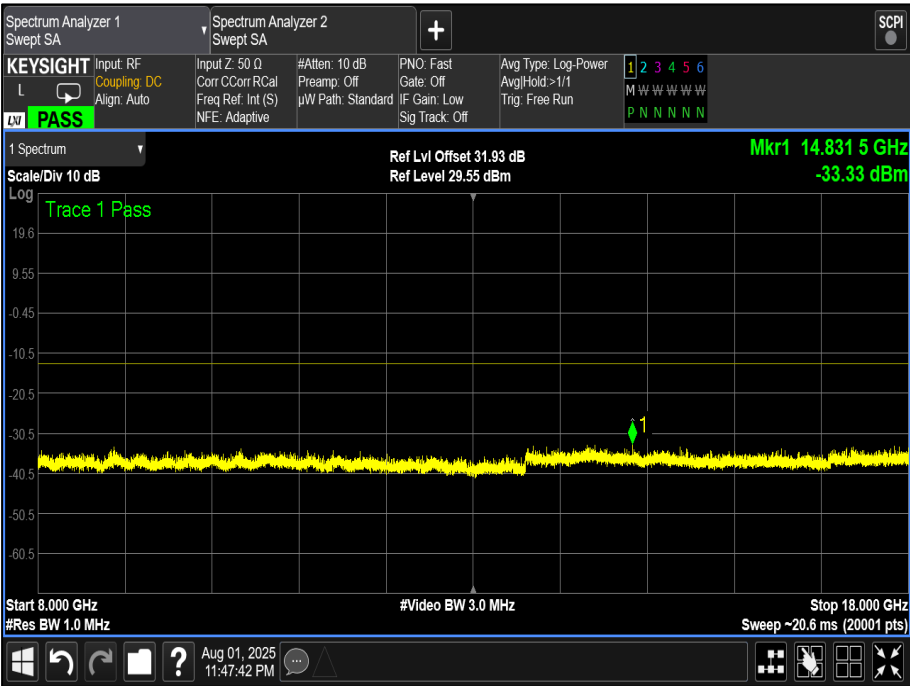


Figure 12 - 8 GHz to 18 GHz, Bottom Channel, 8.0000 MHz, 64-QAM

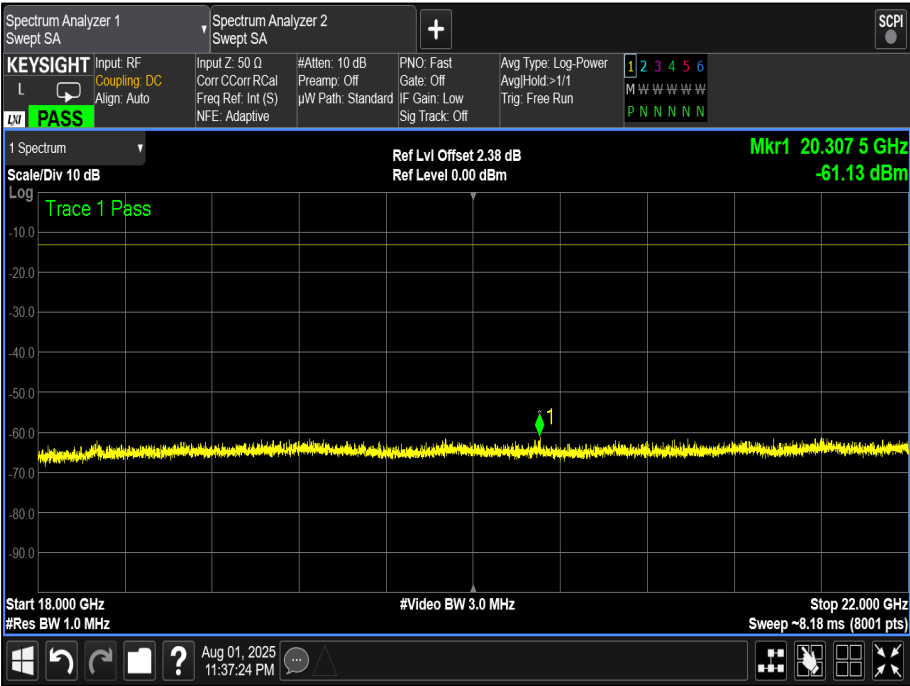


Figure 13 - 18 GHz to 22 GHz, Bottom Channel, 8.0000 MHz, 64-QAM

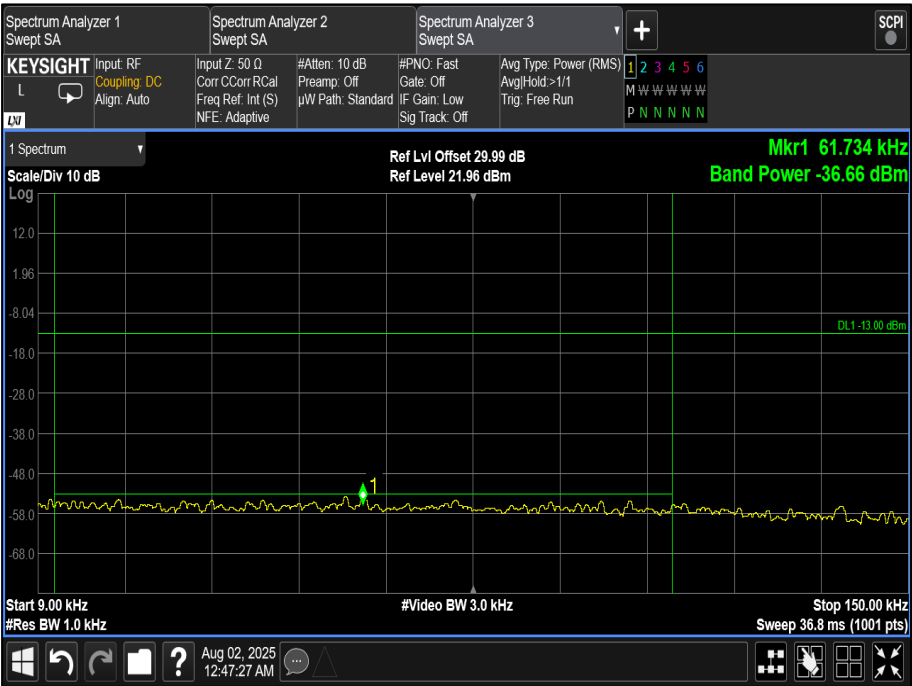


Figure 14 - 9 kHz to 150 kHz, Middle Channel, 8.0000 MHz, 64-QAM

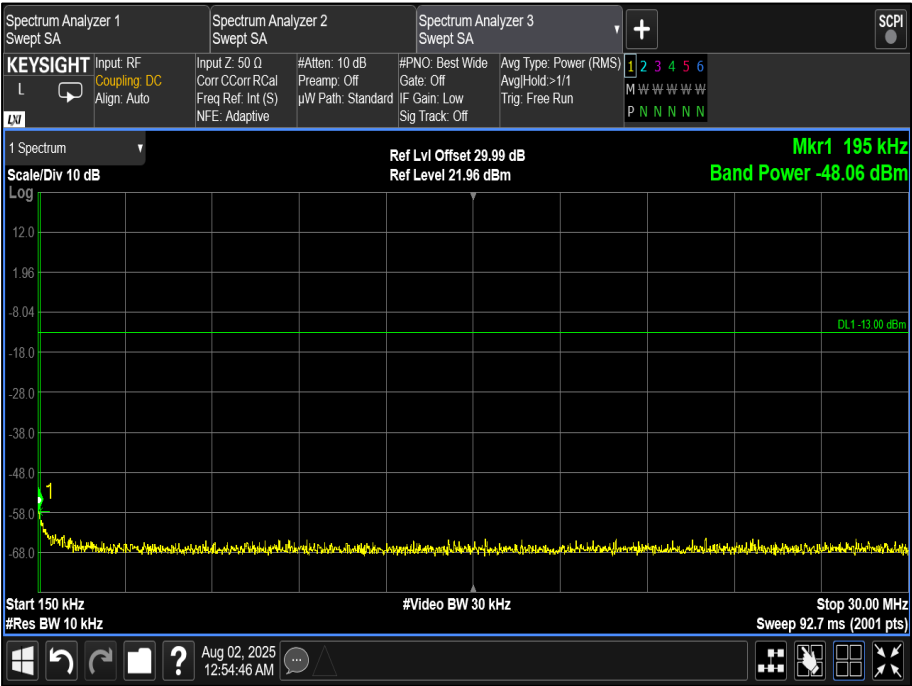


Figure 15 - 150 kHz to 30 MHz, Middle Channel, 8.0000 MHz, 64-QAM

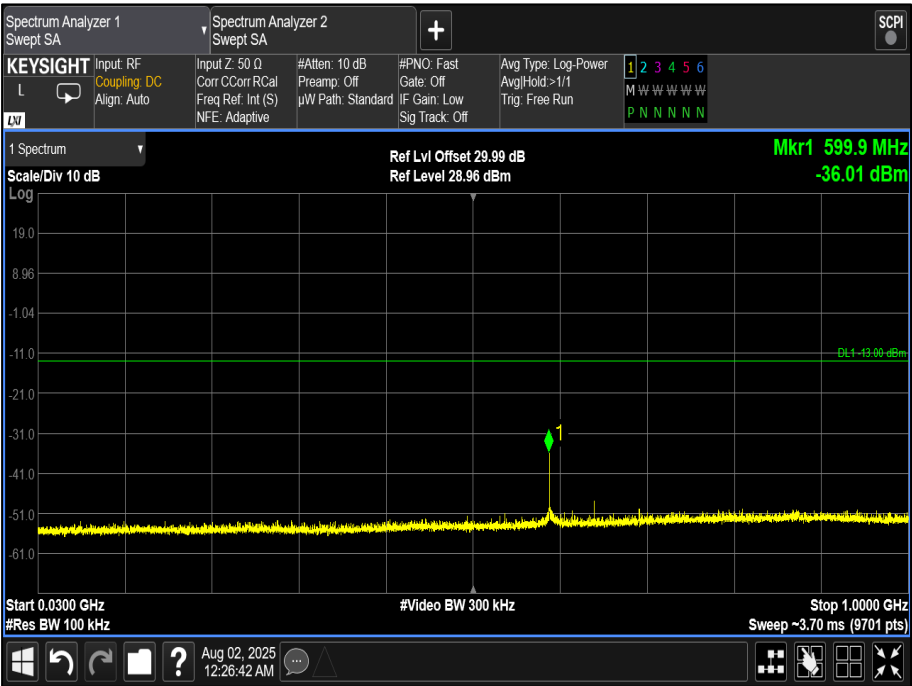


Figure 16 - 30 MHz to 1 GHz, Middle Channel, 8.0000 MHz, 64-QAM

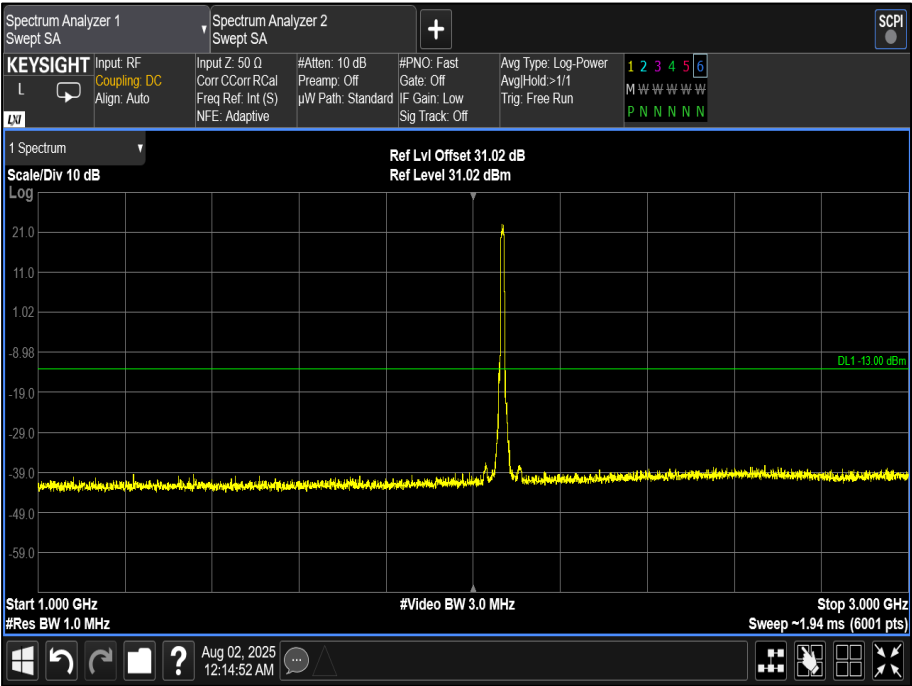


Figure 17 - 1 GHz to 3 GHz, Middle Channel, 8.0000 MHz, 64-QAM

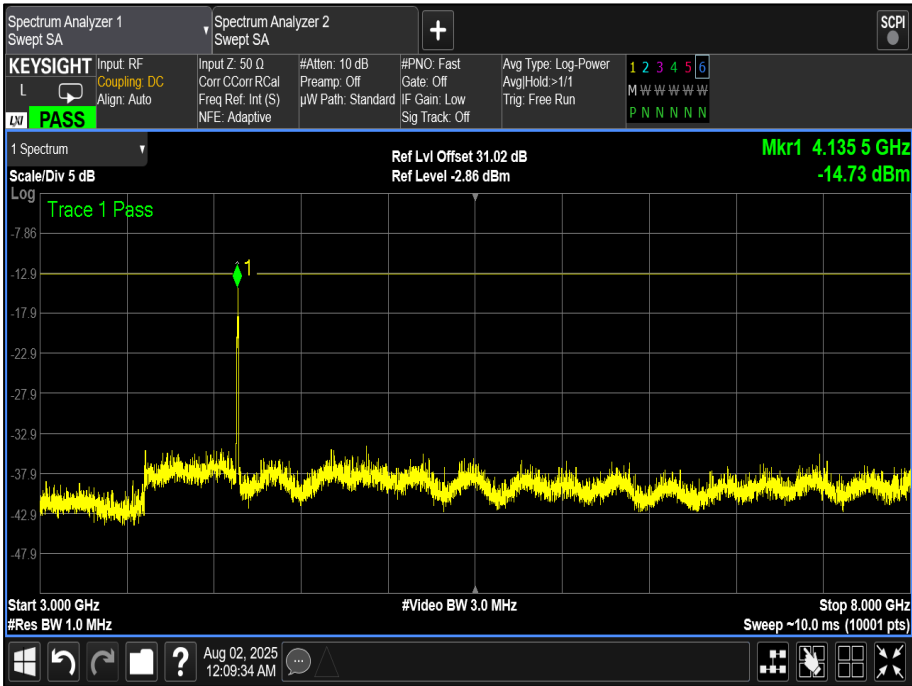


Figure 18 - 3 GHz to 8 GHz, Middle Channel, 8.0000 MHz, 64-QAM

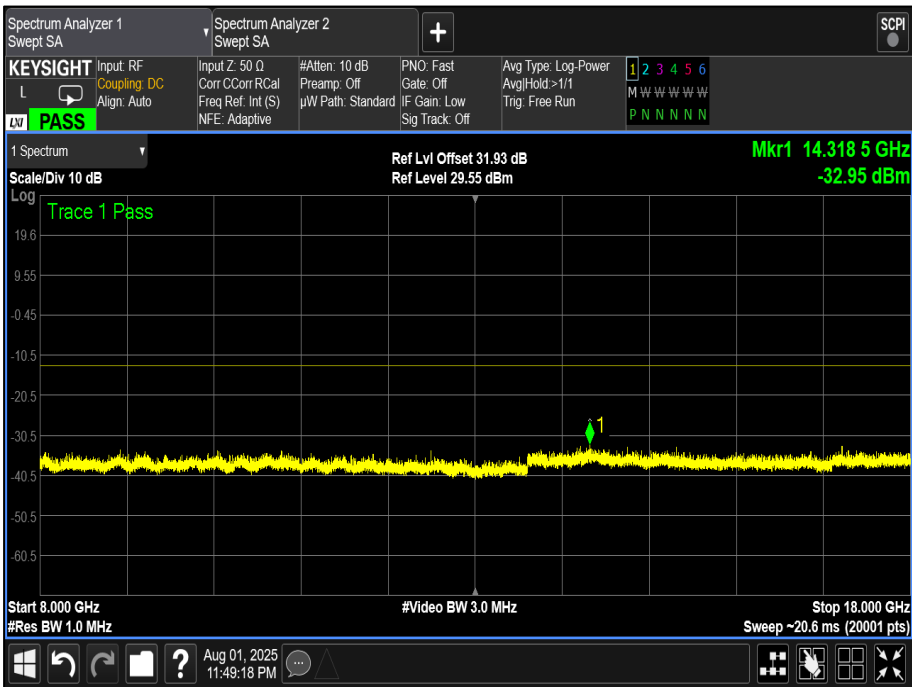


Figure 19 - 8 GHz to 18 GHz, Middle Channel, 8.0000 MHz, 64-QAM

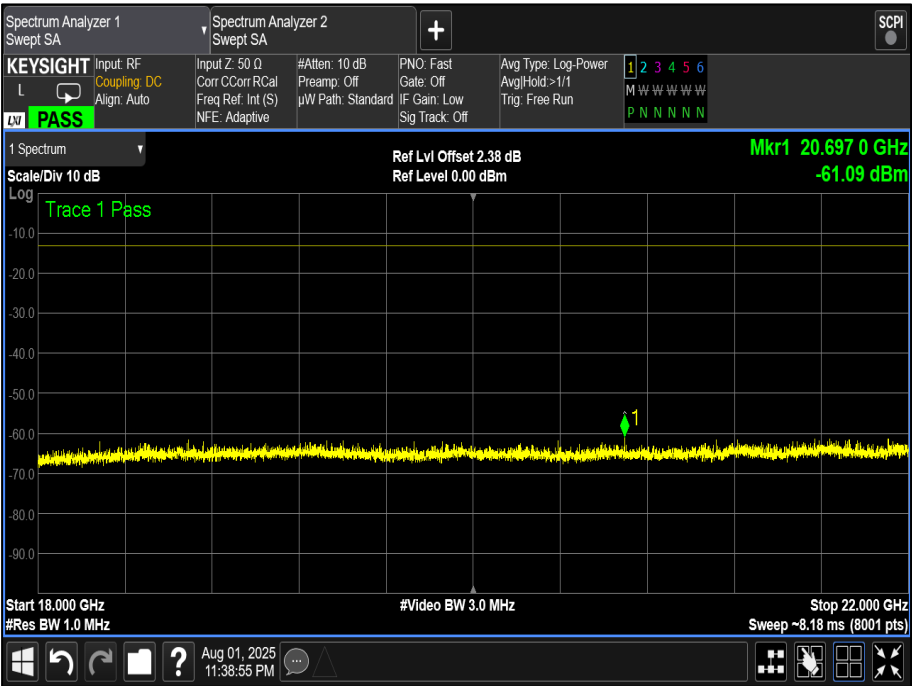


Figure 20 - 18 GHz to 22 GHz, Middle Channel, 8.0000 MHz, 64-QAM

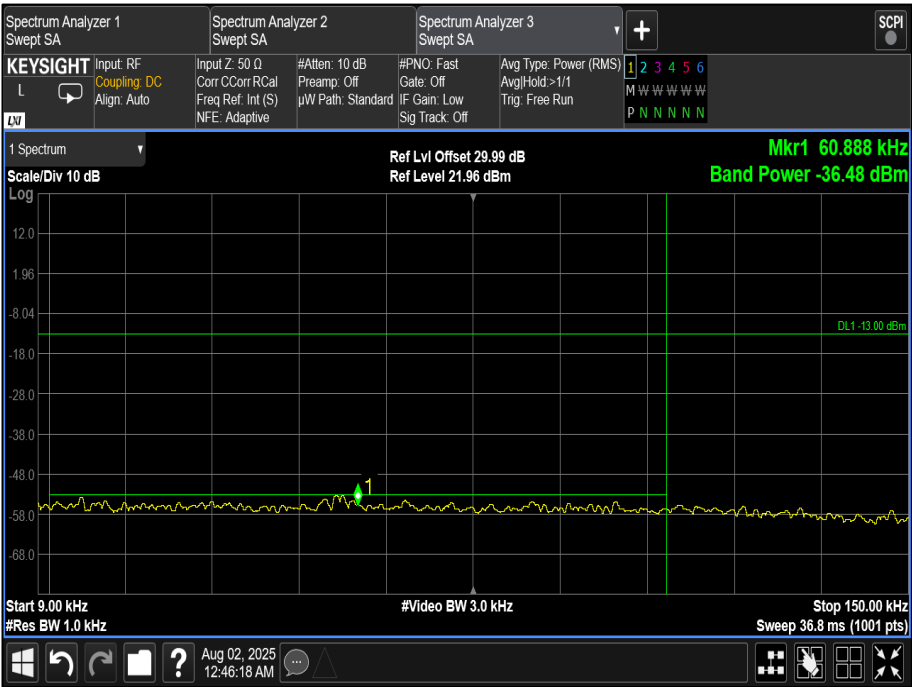


Figure 21 - 9 kHz to 150 kHz, Top Channel, 8.0000 MHz, 64-QAM

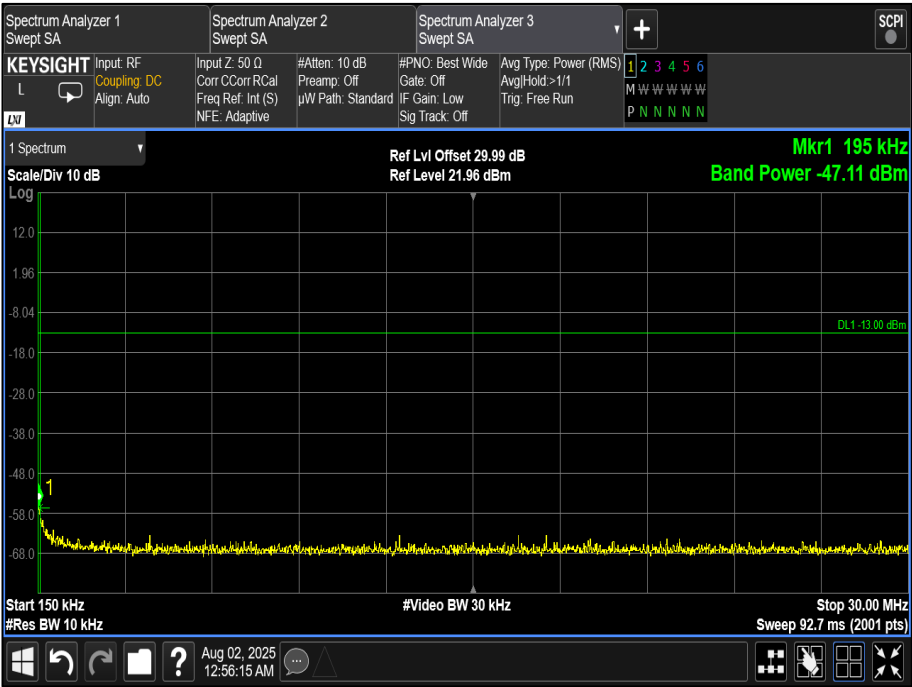


Figure 22 - 150 kHz to 30 MHz, Top Channel, 8.0000 MHz, 64-QAM

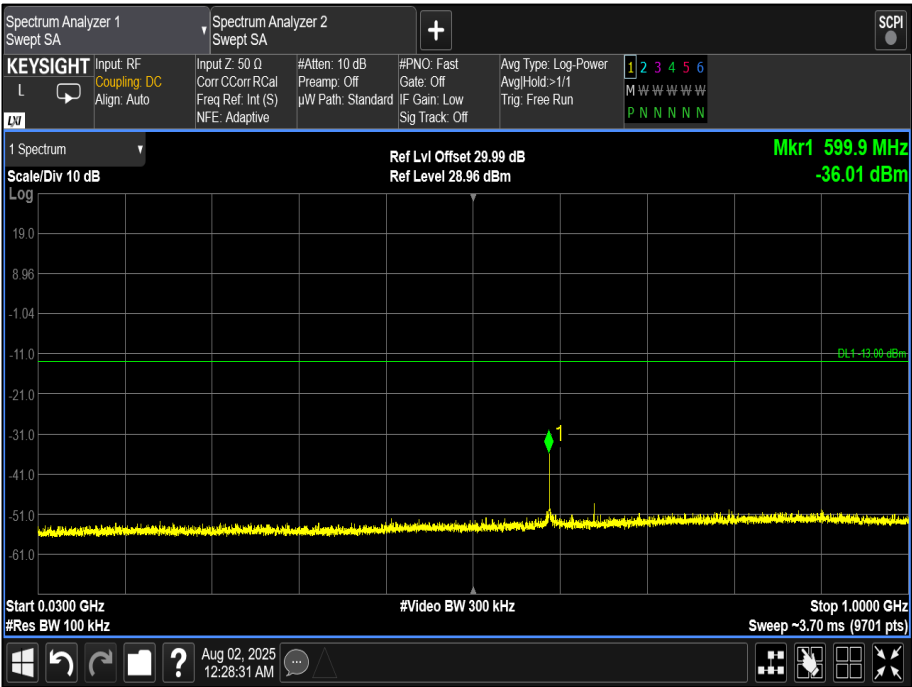


Figure 23 - 30 MHz to 1 GHz, Top Channel, 8.0000 MHz, 64-QAM

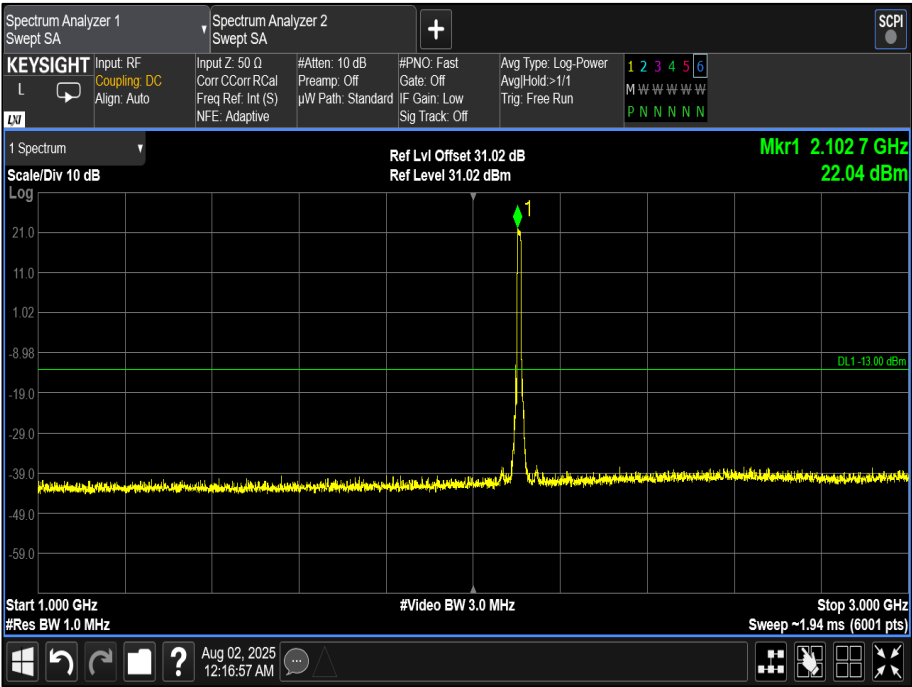


Figure 24 - 1 GHz to 3 GHz, Top Channel, 8.0000 MHz, 64-QAM

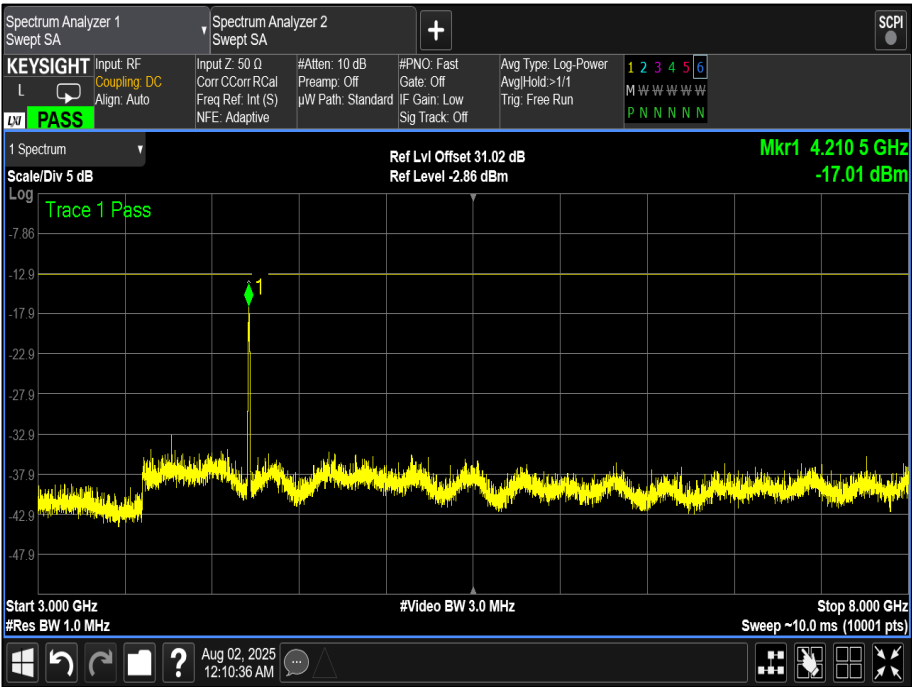


Figure 25 - 3 GHz to 8 GHz, Top Channel, 8.0000 MHz, 64-QAM

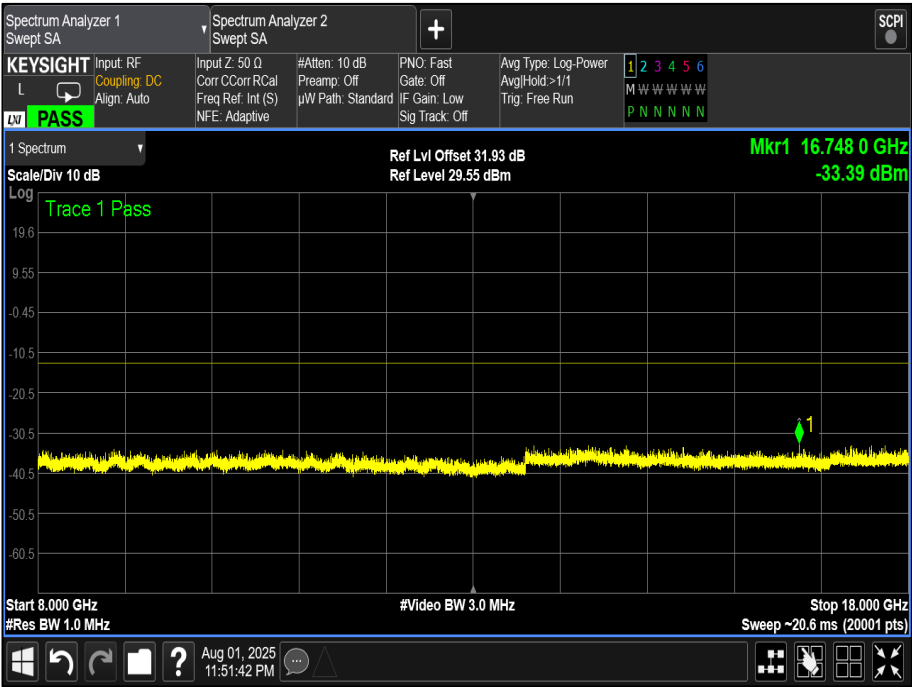


Figure 26 - 8 GHz to 18 GHz, Top Channel, 8.0000 MHz, 64-QAM

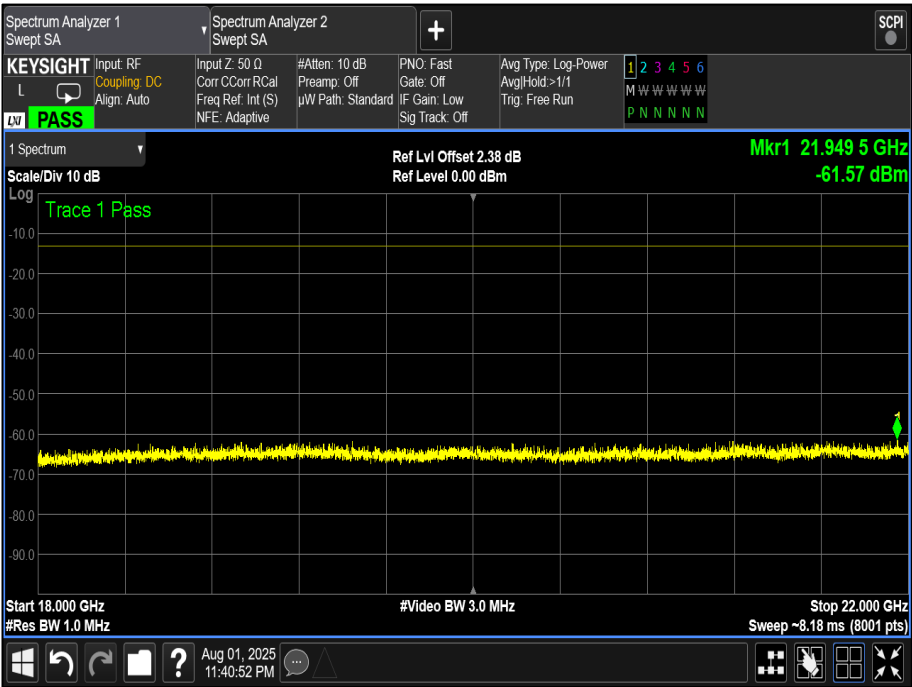


Figure 27 - 18 GHz to 22 GHz, Top Channel, 8.0000 MHz, 64-QAM

FCC 47 CFR Part 74, Limit Clause 74.637

| Clause            | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 74.637(a)(2)(i)   | <p>(a) The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:</p> <p>(1) When using transmissions employing digital modulation techniques:</p> <p>(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:</p> $A = 35 + 0.8 (G - 50) + 10 \text{ Log}_{10} B.$ <p>(Attenuation greater than 80 decibels is not required.)</p> <p>Where:</p> <p>A = Attenuation (in decibels) below the mean output power level.</p> <p>G = Percent removed from the carrier frequency.</p> |
| 74.637(a)(2)(iii) | <p>In any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least <math>43 + 10 \text{ Log}_{10}</math> (PMEAN in watts) decibels, or 80 decibels, whichever is the lesser attenuation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Table 26 - Emission Limitations Specification Requirements



#### 2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

| Instrument                    | Manufacturer          | Type No            | TE No | Calibration Period (months) | Calibration Expires |
|-------------------------------|-----------------------|--------------------|-------|-----------------------------|---------------------|
| Dual Power Supply Unit        | Hewlett Packard       | 6253A              | 271   | -                           | O/P Mon             |
| Hygrometer                    | Rotronic              | I-1000             | 3220  | 12                          | 02-Dec-2025         |
| Cable 2.92m                   | Junkosha              | MWX241-01000KMS    | 5412  | 12                          | 06-Jun-2026         |
| WG20 Coaxial Adapter (1 of 2) | Quasar                | QWC20SB-UBR-K-F    | 5785  | 12                          | 11-Jun-2026         |
| WG20 Coaxial Adapter (2 of 2) | Quasar                | QWC20SB-UBR-K-F    | 5786  | 12                          | 11-Jun-2026         |
| WG20 Straight (50mm)          | Quasar                | QWS20SB-UBR-UBR-50 | 5789  | 12                          | 11-Jun-2026         |
| Attenuator (5 W, 30 dB)       | Aaren                 | AT40A-4041-D18-30  | 6562  | 12                          | 18-Jun-2026         |
| MXA Signal Analyser           | Keysight Technologies | N9020B             | 6876  | 24                          | 31-Aug-2026         |

**Table 27**

O/P Mon – Output Monitored using calibrated equipment



## **2.5 Radiated Spurious Emissions**

### **2.5.1 Specification Reference**

FCC 47 CFR Part 74F, Clause 74.637(a)  
FCC 47 CFR Part 2, Clause 2.1053

### **2.5.2 Equipment Under Test and Modification State**

B160 OEM boardset, S/N: SB111662 - Modification State 0

### **2.5.3 Date of Test**

11-August-2025 to 10-September-2025

### **2.5.4 Test Method**

This test was performed in accordance with ANSI C63.26, clause 5.5.

This test was performed only for the channel bandwidth and modulation resulting in the highest transmitter output power which was 8MHz 64QAM.

A preliminary profile of the Spurious Radiated Emissions was obtained up to the 10th harmonic by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber.

Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation. Emission levels were then maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

The measurements were performed using the direct field strength measurements. The Limit (dBuV/m) was determined from the equation given in ANSI C63.26, clause 5.2.7(d):

Limit (dBuV/m) = Limit (dBm) - 20\*log(D) + 104.8; where D is the measurement distance (in the far field region) in m.

Measurements were taken at a distance of 3 meters for all frequencies below 18 GHz and at 1 meter for frequencies above 18 GHz.

DUT was powered by 12V DC power supply.

### 2.5.5 Example Test Setup Diagram

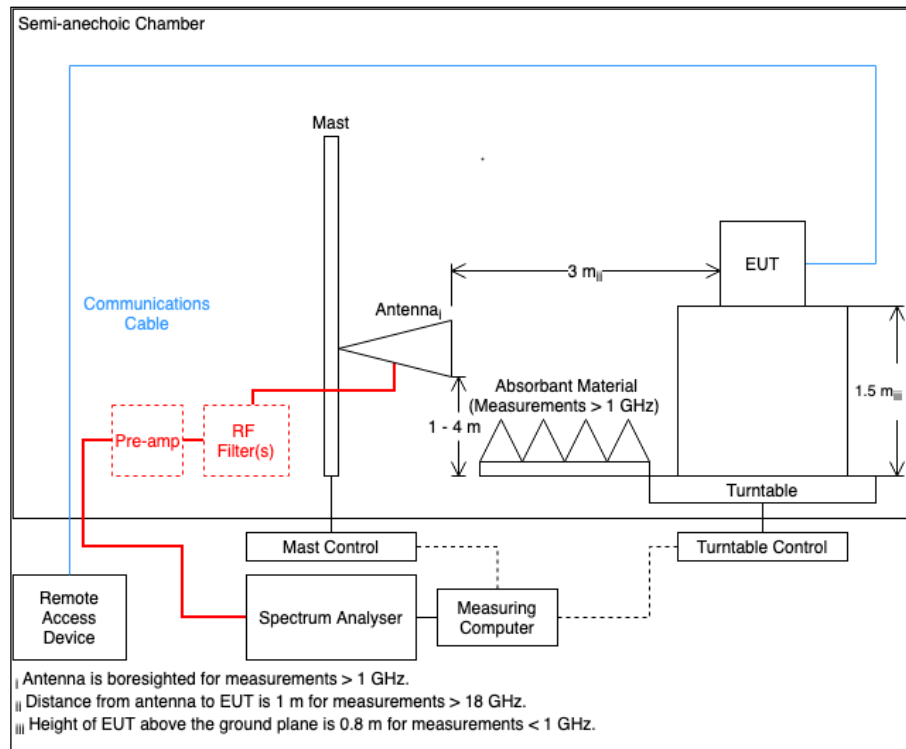


Figure 28

### 2.5.6 Environmental Conditions

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 20.1 - 21.6 °C |
| Relative Humidity   | 40.9 - 44.9 %  |



2.5.7 Test Results

2.1GHz - transmit

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| *               |             |

Table 28 - 2029 MHz - Emissions Results

\*No emissions were detected within 10 dB of the limit.

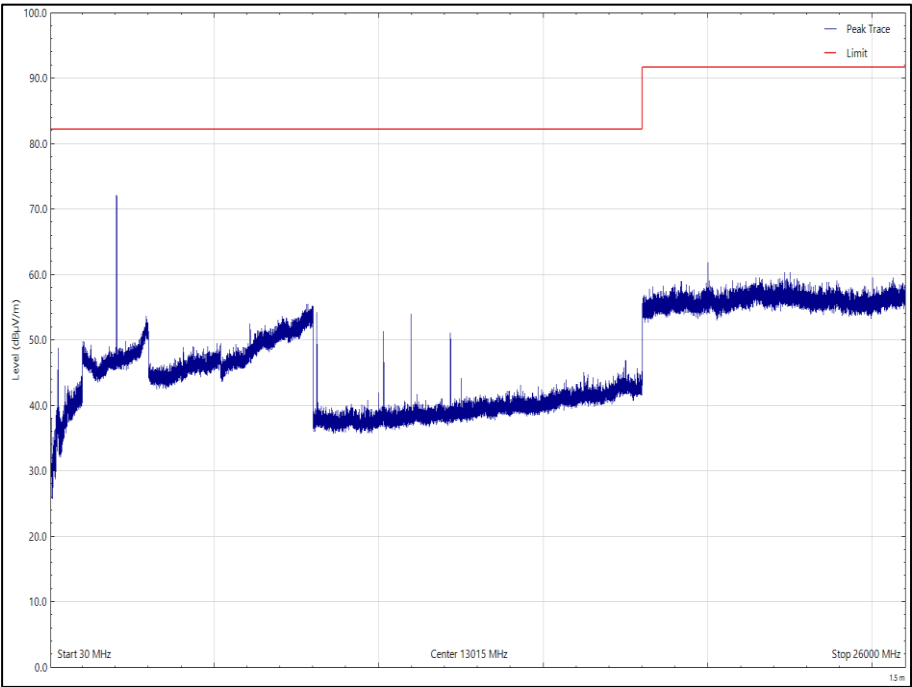


Figure 29 - 2029 MHz - 30 MHz to 26 GHz, Horizontal X

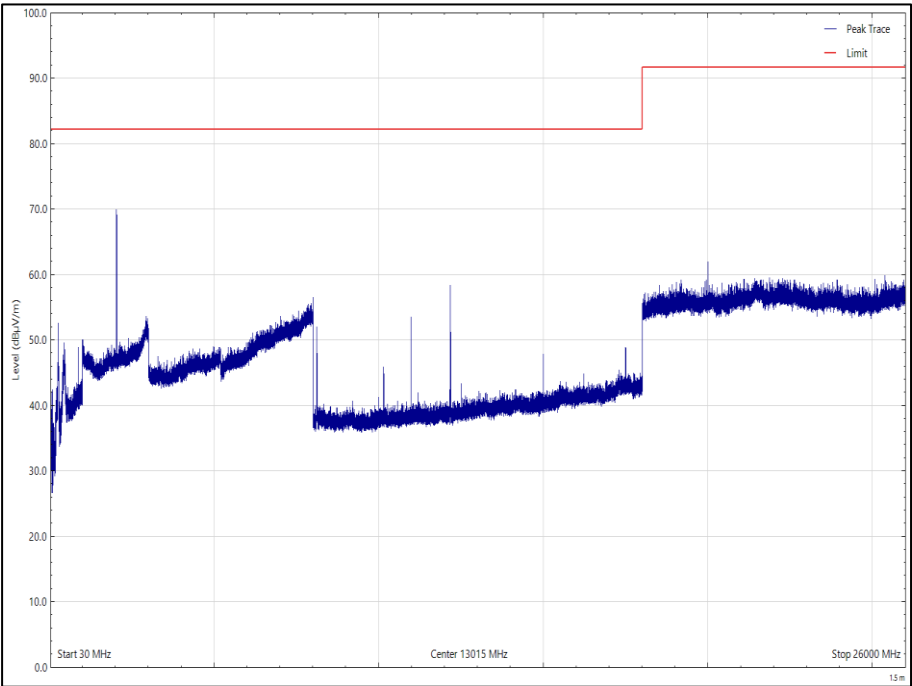


Figure 30 - 2029 MHz - 30 MHz to 26 GHz, Vertical X

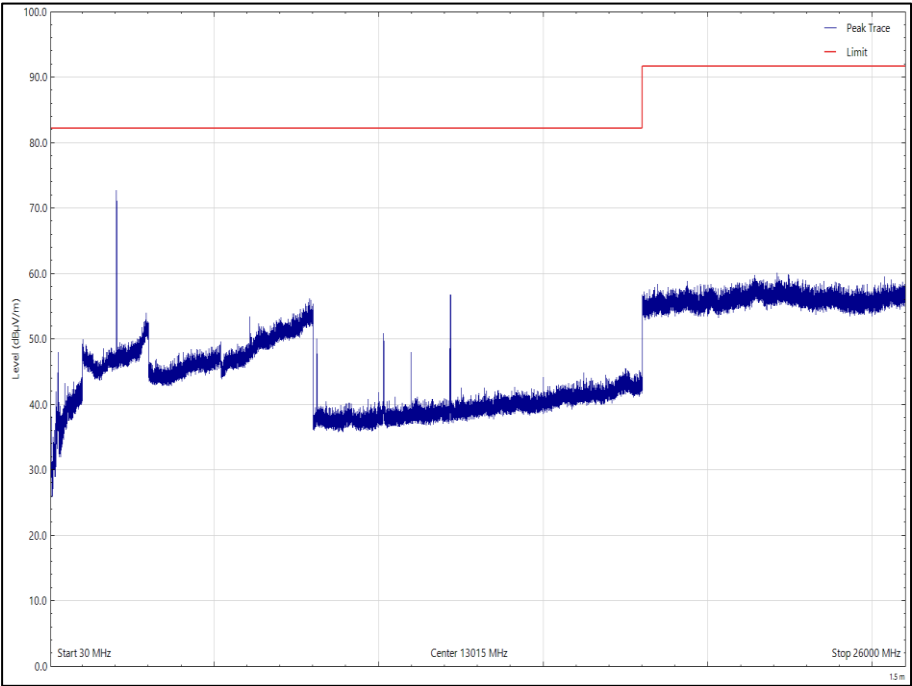


Figure 31 - 2029 MHz - 30 MHz to 26 GHz, Horizontal Y

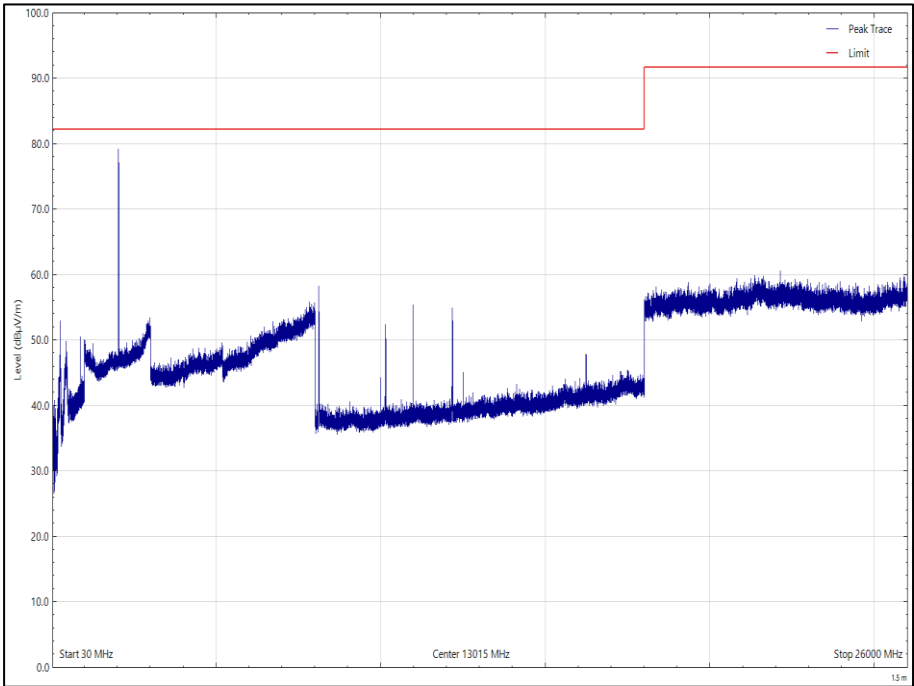


Figure 32 - 2029 MHz - 30 MHz to 26 GHz, Vertical Y

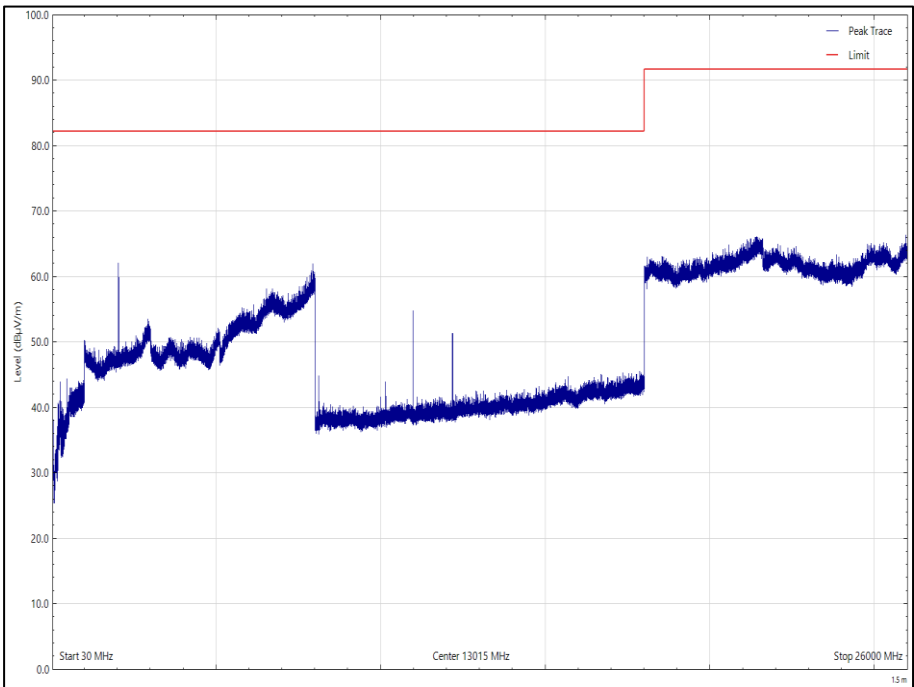


Figure 33 - 2029 MHz - 30 MHz to 26 GHz, Horizontal Z

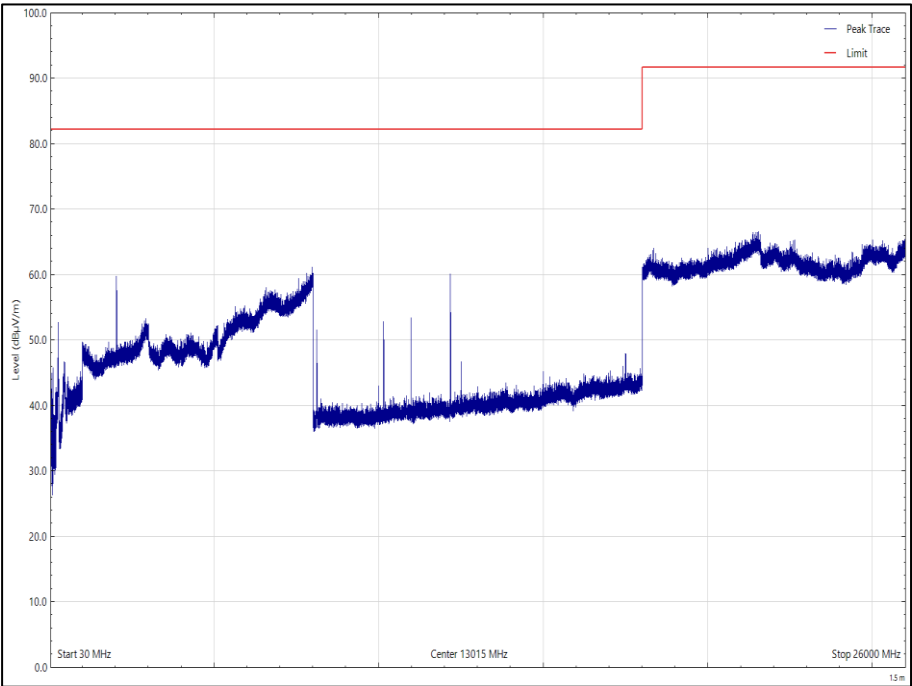


Figure 34 - 2029 MHz - 30 MHz to 26 GHz, Vertical Z

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| *               |             |

Table 29 - 2067.5 MHz - Emissions Results

\*No emissions were detected within 10 dB of the limit.

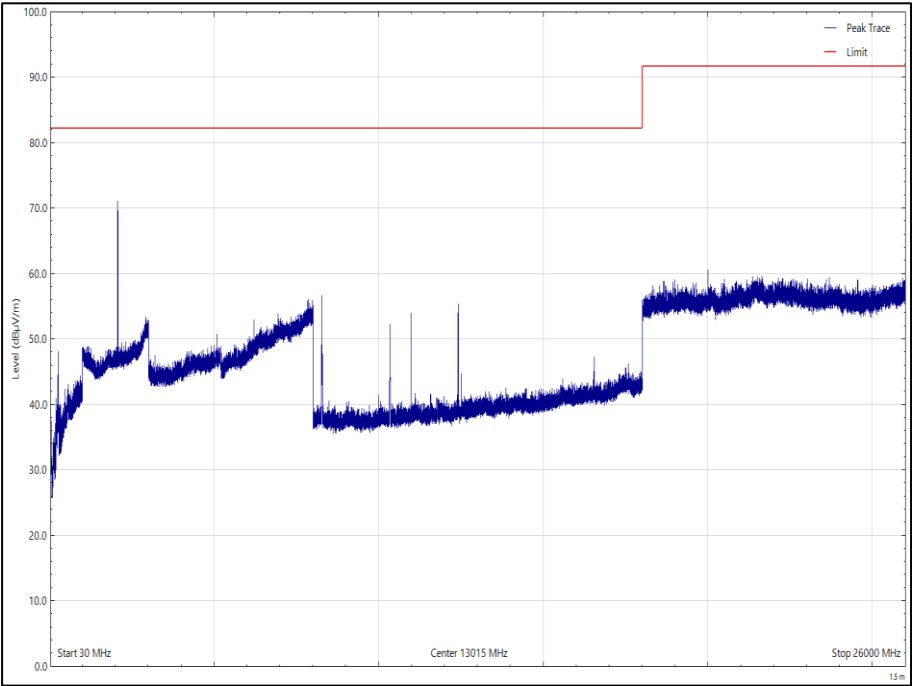


Figure 35 - 2067.5 MHz - 30 MHz to 26 GHz, Horizontal X

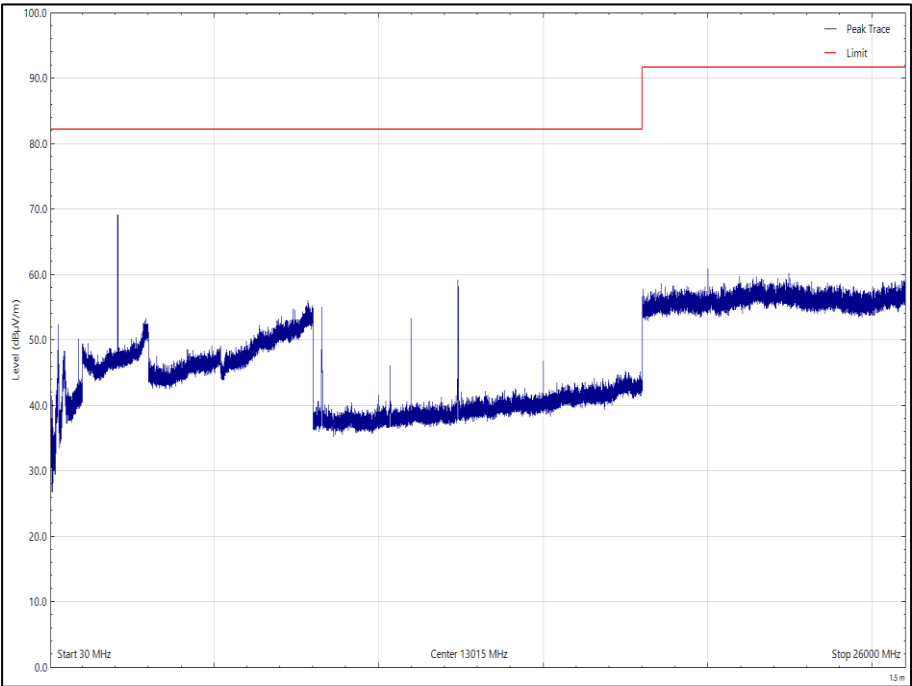


Figure 36 - 2067.5 MHz - 30 MHz to 26 GHz, Vertical X

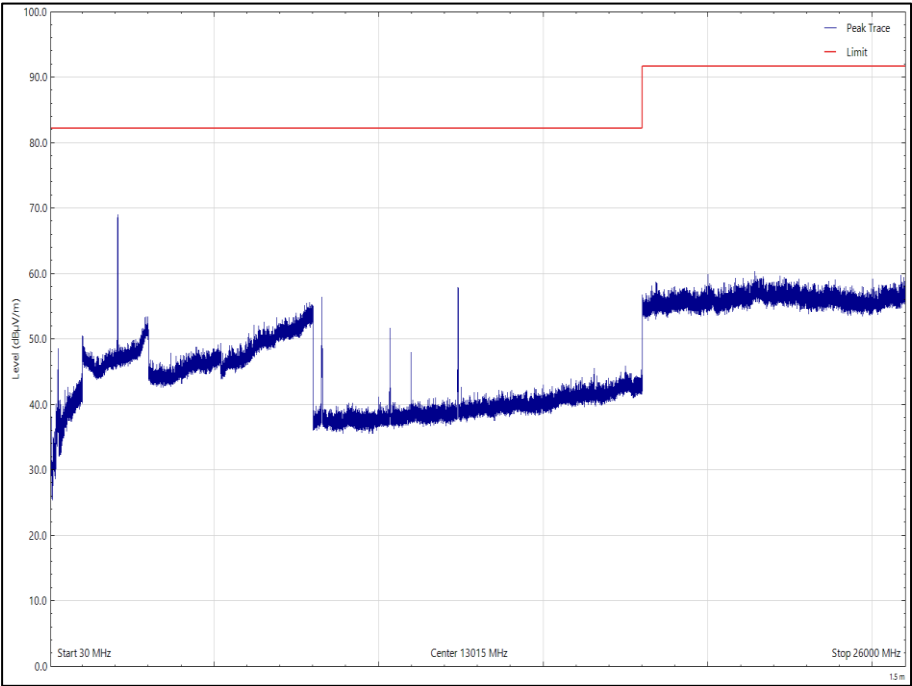


Figure 37 - 2067.5 MHz - 30 MHz to 26 GHz, Horizontal Y

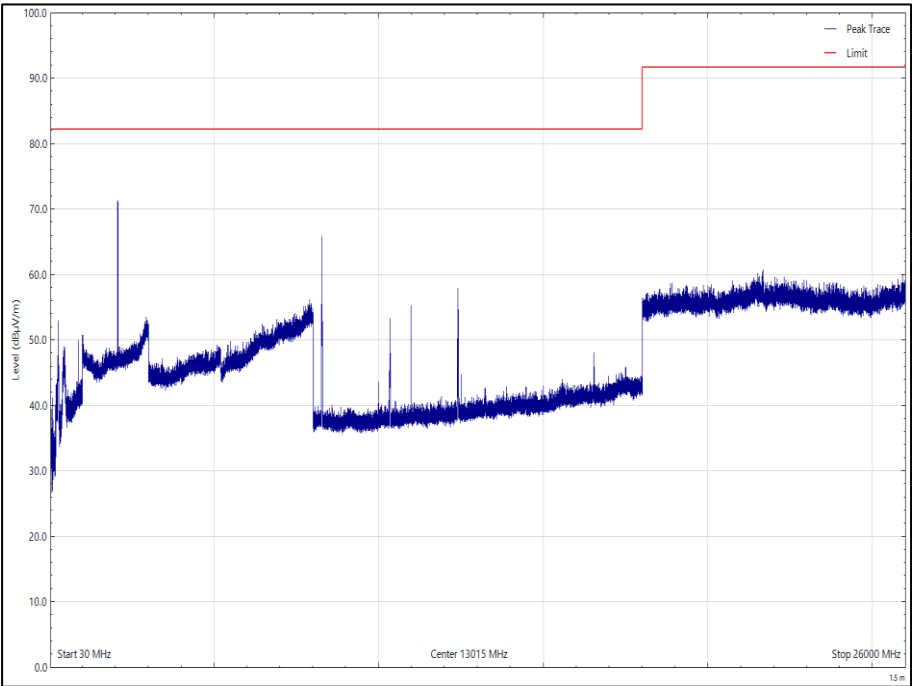


Figure 38 - 2067.5 MHz - 30 MHz to 26 GHz, Vertical Y

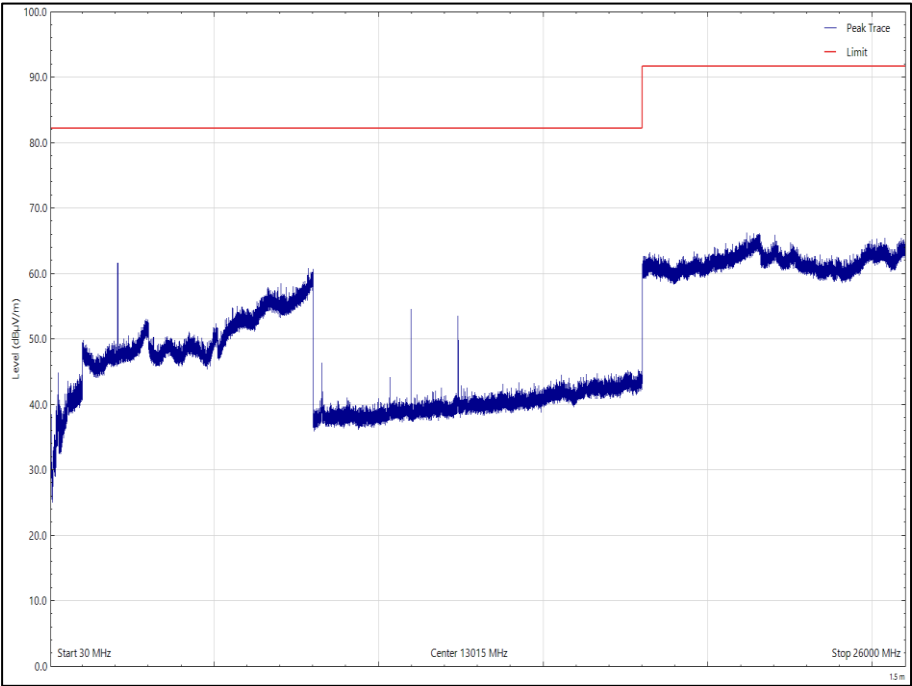


Figure 39 - 2067.5 MHz - 30 MHz to 26 GHz, Horizontal Z

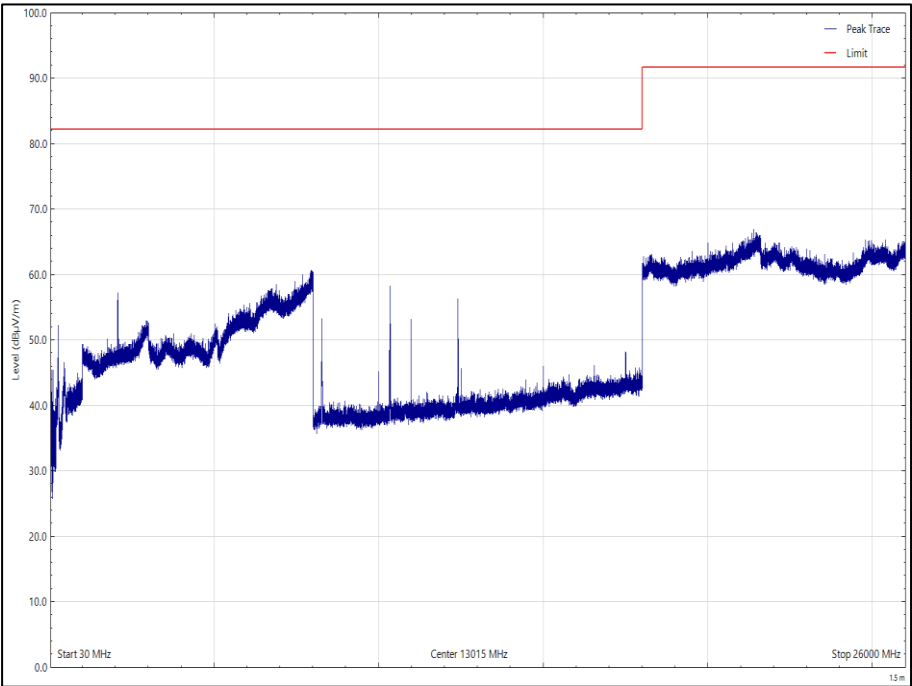


Figure 40 - 2067.5 MHz - 30 MHz to 26 GHz, Vertical Z



| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| *               |             |

Table 30 - 2067.5 MHz - Emissions Results

\*No emissions were detected within 10 dB of the limit.

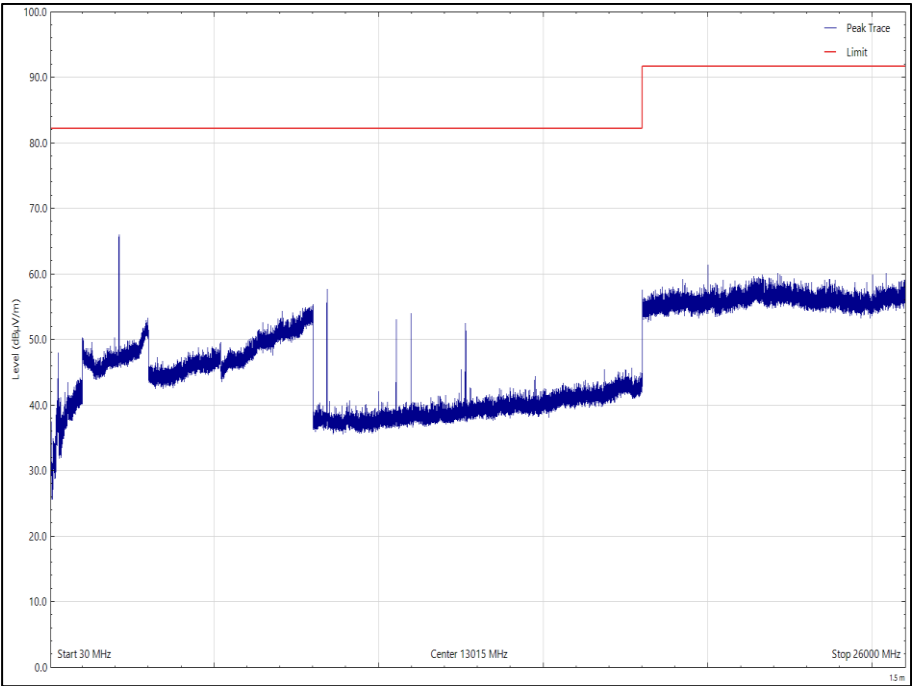


Figure 41 - 2106 MHz - 30 MHz to 26 GHz, Horizontal X

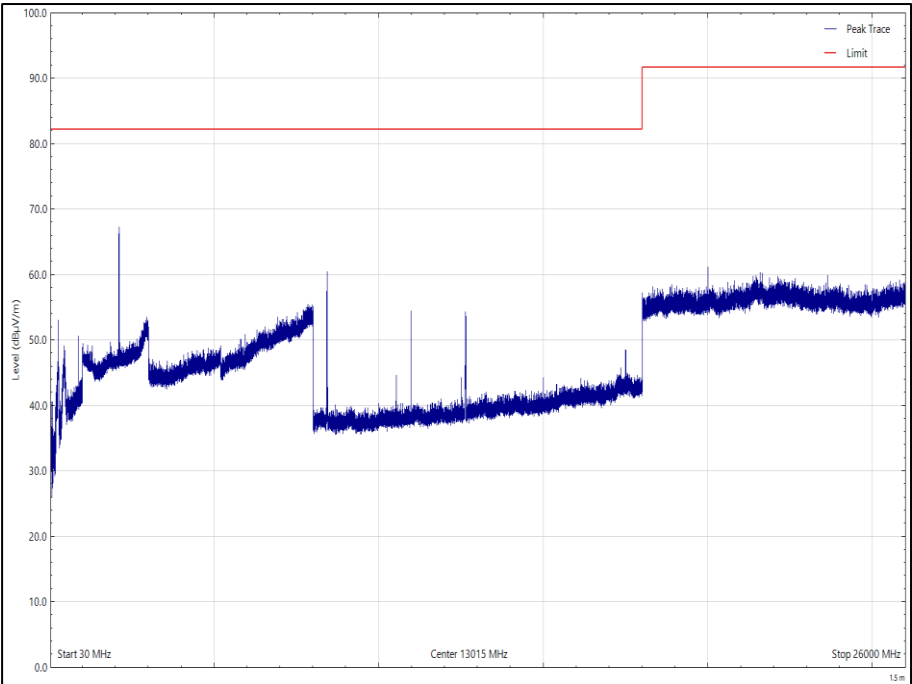


Figure 42 - 2106 MHz - 30 MHz to 26 GHz, Vertical X

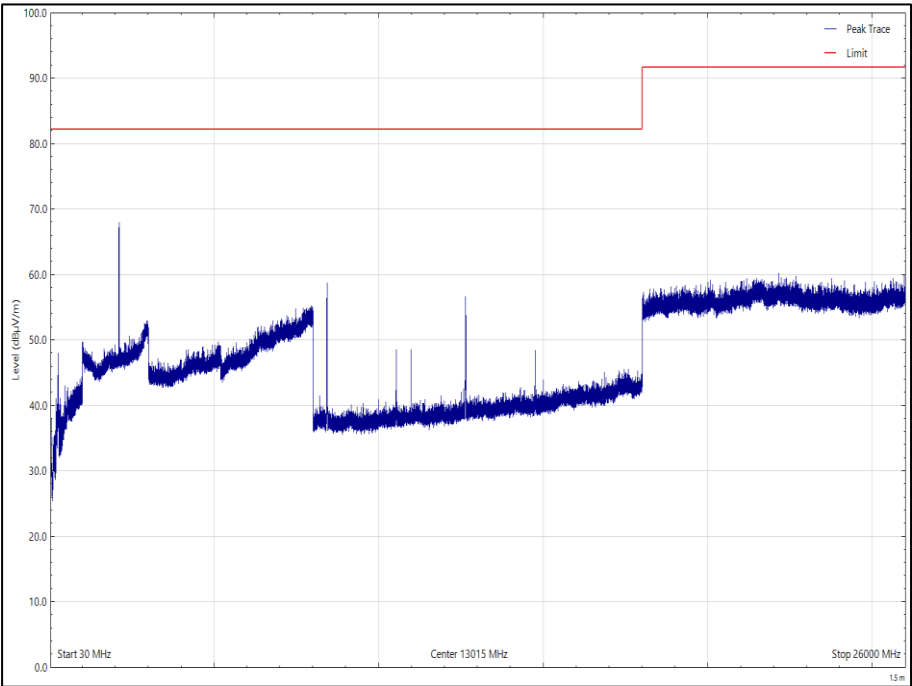


Figure 43 - 2106 MHz - 30 MHz to 26 GHz, Horizontal Y

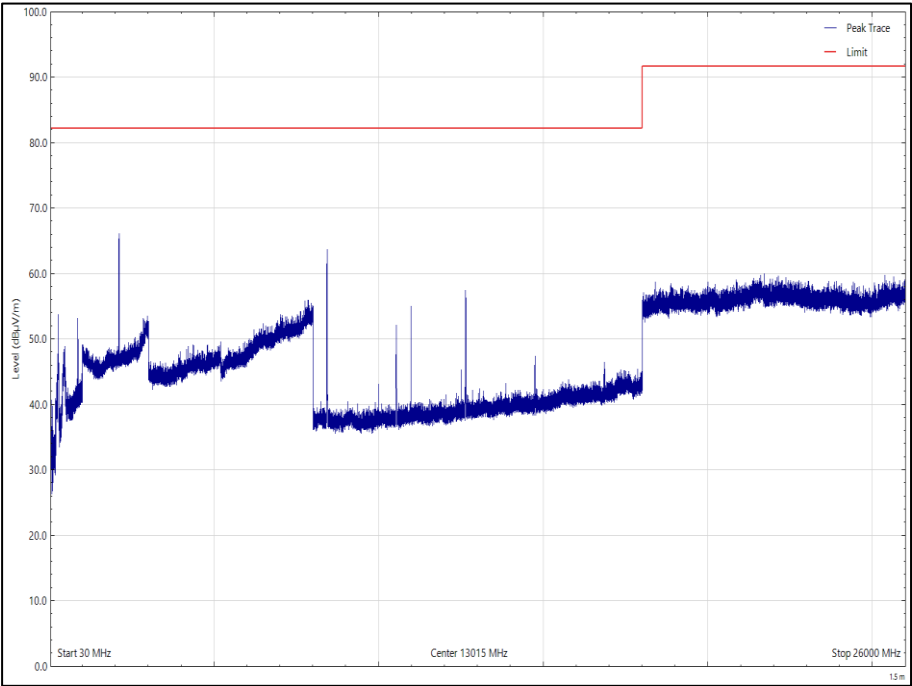


Figure 44 - 2106 MHz - 30 MHz to 26 GHz, Vertical Y

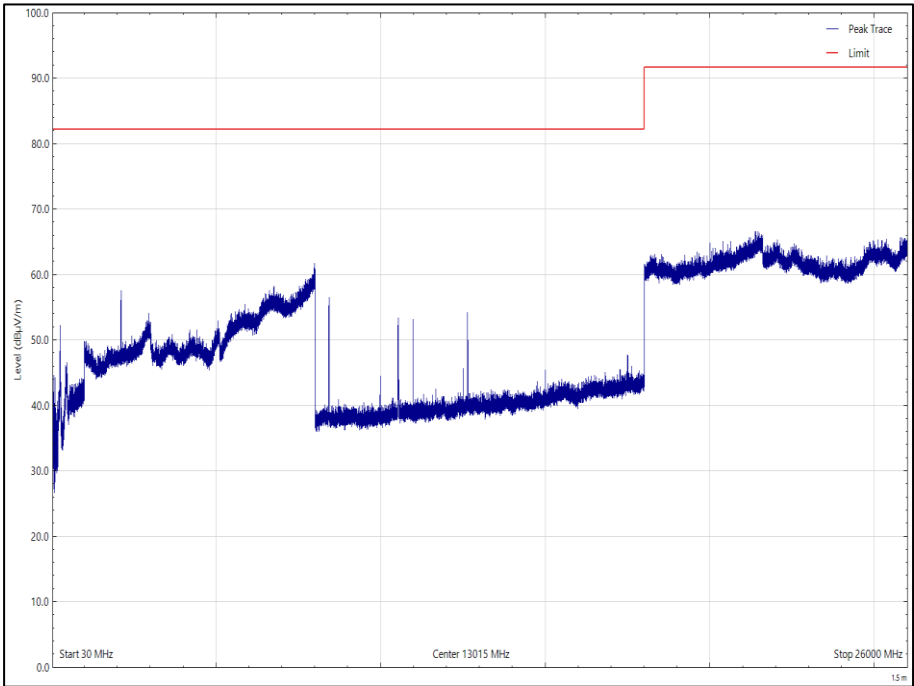


Figure 45 - 2106 MHz - 30 MHz to 26 GHz, Horizontal Z

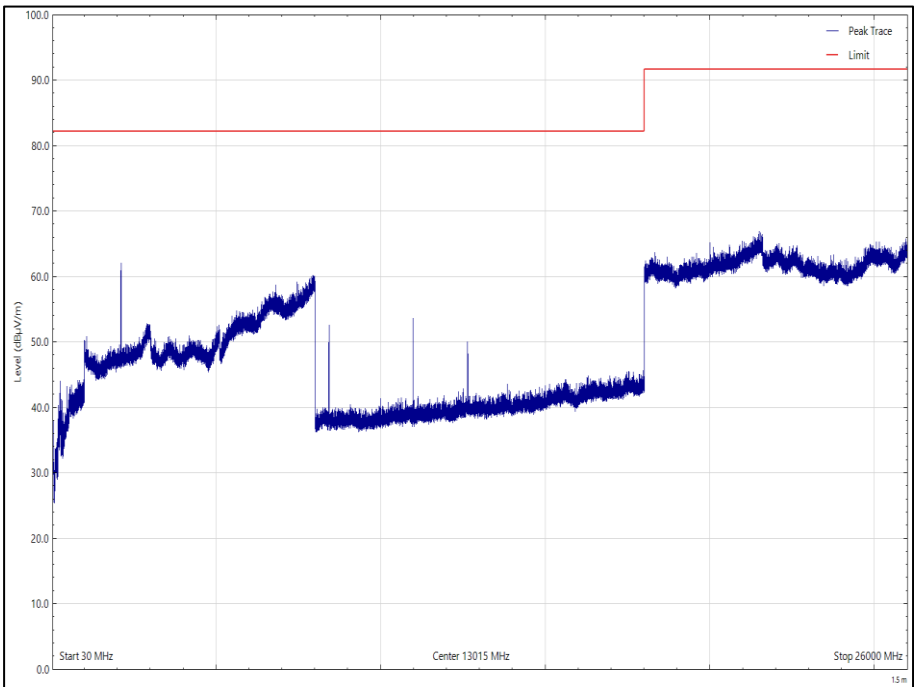


Figure 46 - 2106 MHz - 30 MHz to 26 GHz, Vertical Z



FCC 47 CFR Part 74, Limit Clause 74.637

| Limit Clause | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 74.637(a)(2) | <p>(a) The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:</p> <p>(2) When using transmissions employing digital modulation techniques:</p> <p>(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:</p> $A = 35 + 0.8 (G - 50) + 10 \text{ Log}_{10} B.$ <p>(Attenuation greater than 80 decibels is not required.)</p> <p>Where:</p> <p>A = Attenuation (in decibels) below the mean output power level.<br/> G = Percent removed from the carrier frequency.<br/> B = Authorized bandwidth in megahertz.</p> <p>(ii) For operating frequencies above 15 GHz, in any 1 MHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:</p> $A = 11 + 0.4 (G - 50) + 10 \text{ Log}_{10} B.$ <p>(Attenuation greater than 56 decibels is not required.)</p> <p>(iii) In any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least <math>43 + 10 \text{ Log}_{10} (\text{PMEAN in watts})</math> decibels, or 80 decibels, whichever is the lesser attenuation.</p> |

**Table 31 - Emission Limitations Specification Requirements**

## 2.5.8 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5 and RF Chamber 11.

| Instrument                                       | Manufacturer          | Type No              | TE No | Calibration Period (months) | Calibration Expires |
|--------------------------------------------------|-----------------------|----------------------|-------|-----------------------------|---------------------|
| Power Supply Unit                                | Hewlett Packard       | 6267B                | 21    | -                           | O/P Mon             |
| Antenna (DRG, 18 GHz to 40 GHz)                  | Link Microtek Ltd     | AM180HA-K-TU2        | 230   | 24                          | 08-Oct-2026         |
| Pre-Amplifier (18 GHz to 40 GHz)                 | Narda                 | NARDA DB02-0447      | 237   | 12                          | 30-Apr-2026         |
| Antenna (Bilog with attenuator, 30 MHz to 3 GHz) | Schaffner             | CBL6143              | 287   | 24                          | 29-Aug-2026         |
| True RMS Multimeter                              | Fluke                 | 79 Series III        | 411   | 12                          | 09-Jan-2026         |
| 3m Semi-Anechoic Chamber                         | Rainford              | RF Chamber 5         | 1545  | 36                          | 23-Apr-2027         |
| Turntable Controller                             | Inn-Co GmbH           | CO 1000              | 1606  | -                           | O/P Mon             |
| Hygrometer                                       | Rotronic              | Hygropalm 0          | 3028  | 12                          | 12-Aug-2025         |
| Hygrometer                                       | Rotronic              | I-1000               | 3220  | 12                          | 02-Dec-2025         |
| True RMS Multimeter                              | Fluke                 | 179                  | 4007  | 12                          | 10-Dec-2025         |
| PXA Signal Analyser                              | Keysight Technologies | N9030A               | 4653  | 12                          | 06-May-2026         |
| Mast Controller                                  | Maturo GmbH           | NCD                  | 4810  | -                           | O/P Mon             |
| Tilt Antenna Mast                                | Maturo GmbH           | TAM 4.0-P            | 4811  | -                           | O/P Mon             |
| Antenna (DRG, 1 GHz to 10.5 GHz)                 | Schwarzbeck           | BBHA9120B            | 4848  | 12                          | 05-Jul-2026         |
| Test Receiver                                    | Rohde & Schwarz       | ESW44                | 5084  | 12                          | 13-Dec-2025         |
| Emissions Software                               | TUV SUD               | EmX V3.5.4           | 5125  | -                           | Software            |
| 3m Semi-Anechoic Chamber                         | Rainford              | RF Chamber 11        | 5136  | 36                          | 14-Nov-2027         |
| Mast                                             | Maturo                | TAM 4.0-P            | 5158  | -                           | O/P Mon             |
| Mast and Turntable Controller                    | Maturo                | Maturo NCD           | 5159  | -                           | O/P Mon             |
| Turntable                                        | Maturo                | TT 15WF              | 5160  | -                           | O/P Mon             |
| Antenna (DRG, 7.5 GHz to 18 GHz)                 | Schwarzbeck           | HWRD750              | 5216  | 12                          | 12-Jul-2026         |
| Pre-amplifier (30 dB, 1GHz to 18GHz)             | Schwarzbeck           | BBV 9718 C           | 5261  | 12                          | 17-Apr-2026         |
| Cable 2.92m                                      | Junkosha              | MWX241-01000KMS      | 5412  | 12                          | 06-Jun-2026         |
| Cable (K-Type to K-Type, 1 m)                    | Junkosha              | MWX241-01000KMSKMS/A | 5511  | 12                          | 06-Jun-2026         |
| Cable (K-Type to K-Type, 1 m)                    | Junkosha              | MWX241-01000KMSKMS/A | 5512  | 12                          | 06-Jun-2026         |



| Instrument                      | Manufacturer        | Type No                     | TE No | Calibration Period (months) | Calibration Expires |
|---------------------------------|---------------------|-----------------------------|-------|-----------------------------|---------------------|
| Cable (SMA to SMA, 2 m)         | Junkosha            | MWX221-02000AMSAMS/A        | 5517  | 12                          | 06-Jun-2026         |
| 3 GHz High pass Filter          | Wainwright          | WHKX12-2580-3000-18000-80SS | 5547  | 12                          | 30-May-2026         |
| Pre-Amplifier (8 GHz to 18 GHz) | Wright Technologies | APS06-0061                  | 5596  | 12                          | 28-Oct-2025         |
| Cable (K-Type to K-Type, 2 m)   | Junkosha            | MWX241-02000KMSKMS/B        | 5934  | 12                          | 12-Jun-2026         |
| Cable Assy 8m (N to N) 18GHz    | Junkosha            | MWX221-08000NMSNMS/B        | 7050  | 12                          | 01-Jun-2026         |
| 5 GHz Highpass Filter           | Wainwright          | WHKX12-4300-5000-18000-80SS | 7083  | 12                          | 27-Jun-2026         |

**Table 32**

O/P Mon – Output Monitored using calibrated equipment

### 3 Photographs

#### 3.1 Test Setup Photographs

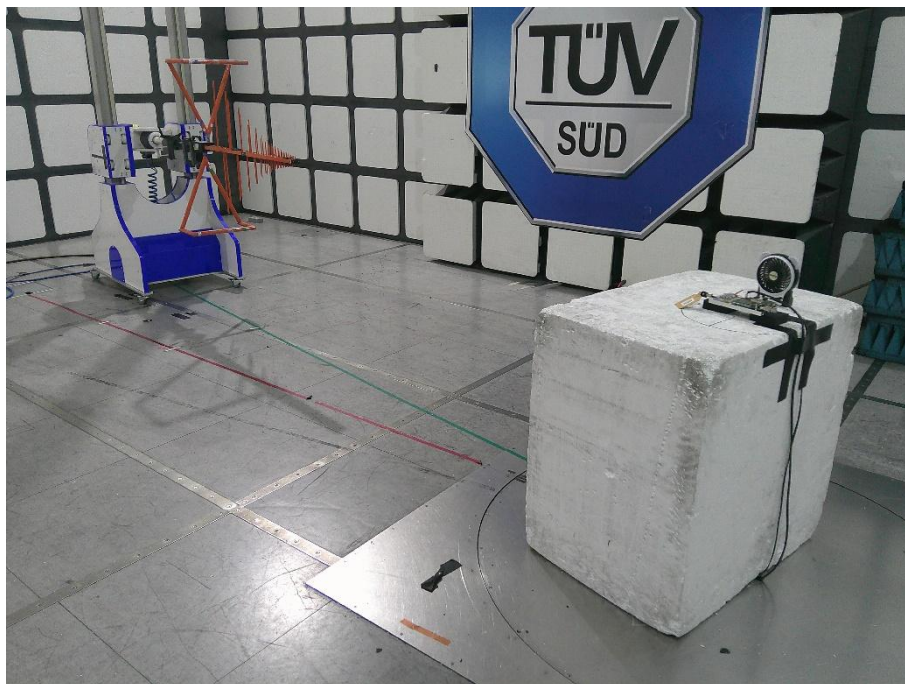


Figure 47 – Radiated test setup 30MHz to 1GHz

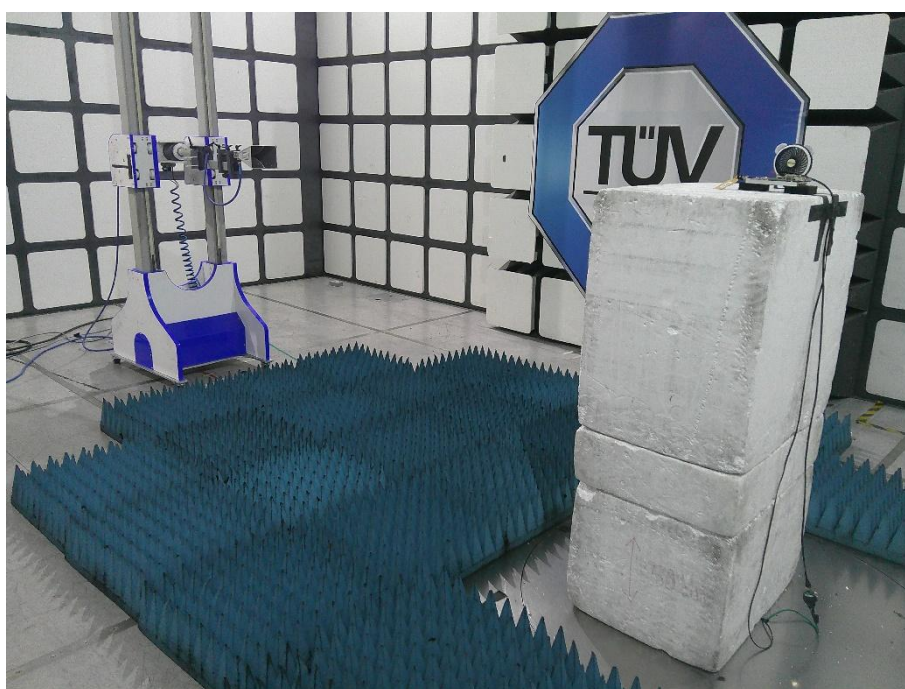


Figure 48 - Radiated test setup 1GHz to 18GHz



**Figure 49 - Radiated test setup 18GHz to 26GHz**

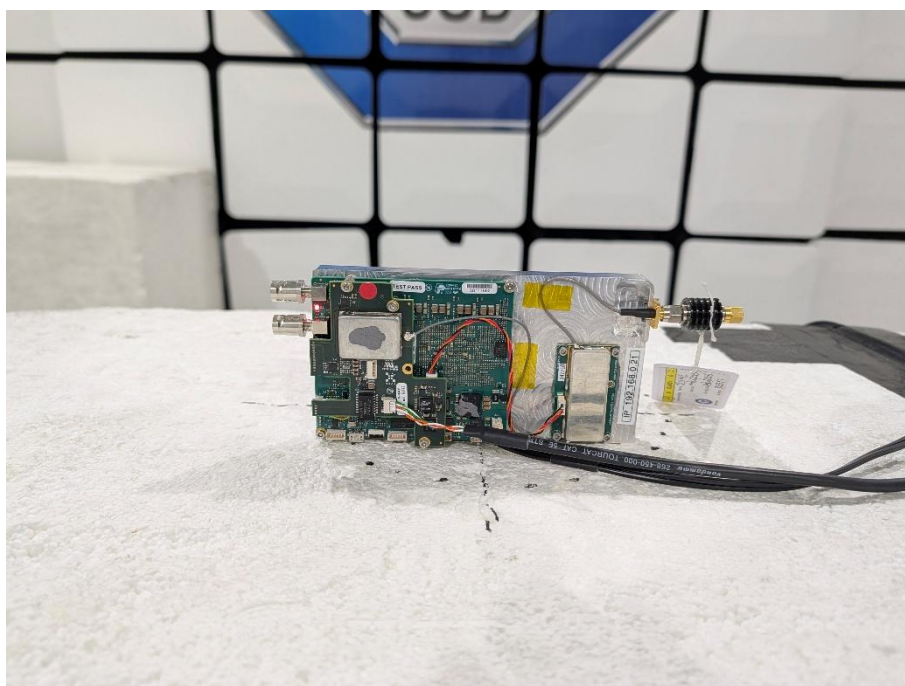


**Figure 50 - Radiated test setup X plane**

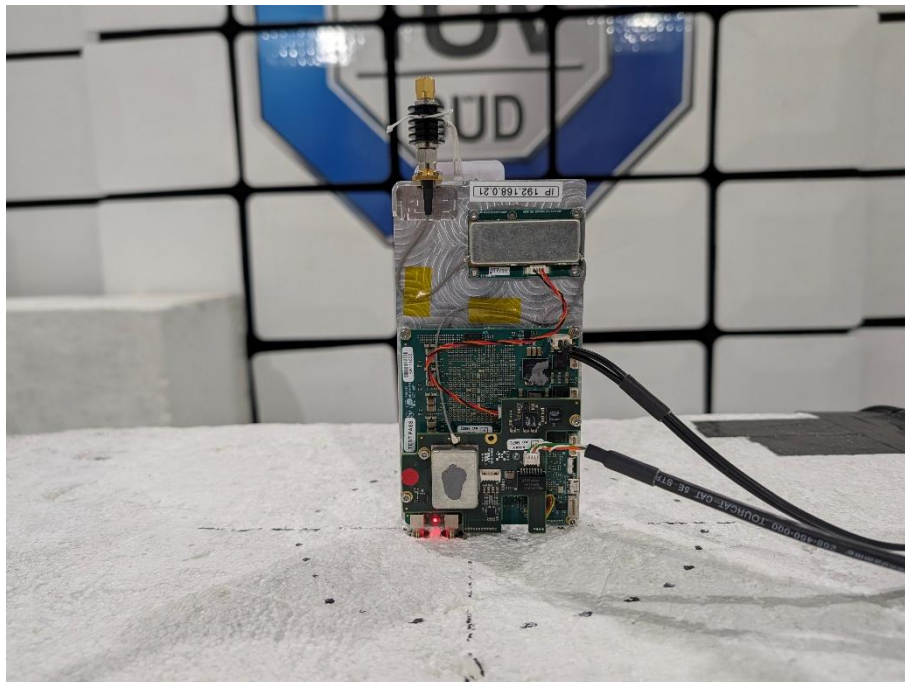


**Figure 51 - Radiated test setup Y plane**

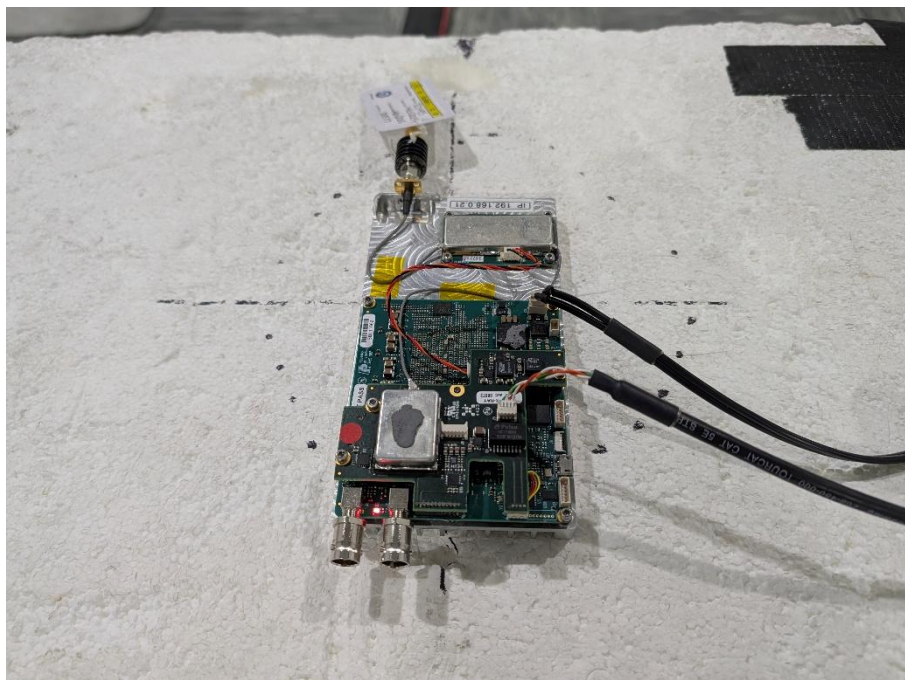


**Figure 52 - Radiated test setup Z plane**



4      **Annex A**

| Channel Bandwidth (MHz) | Modulation Scheme | Bottom Channel (2029 MHz) | Middle Channel (2067.5 MHz) | Top Channel (2106 MHz) |
|-------------------------|-------------------|---------------------------|-----------------------------|------------------------|
|                         |                   | Tx Power (dBm)            | Tx Power (dBm)              | Tx Power (dBm)         |
| 8.000                   | QPSK              | 19.375                    | 19.708                      | 19.441                 |
| 8.000                   | 16-QAM            | 19.498                    | 19.713                      | 19.417                 |
| 8.000                   | 64-QAM            | 19.823                    | 19.977                      | 19.673                 |

**Table 33 – Modulation power measurements**

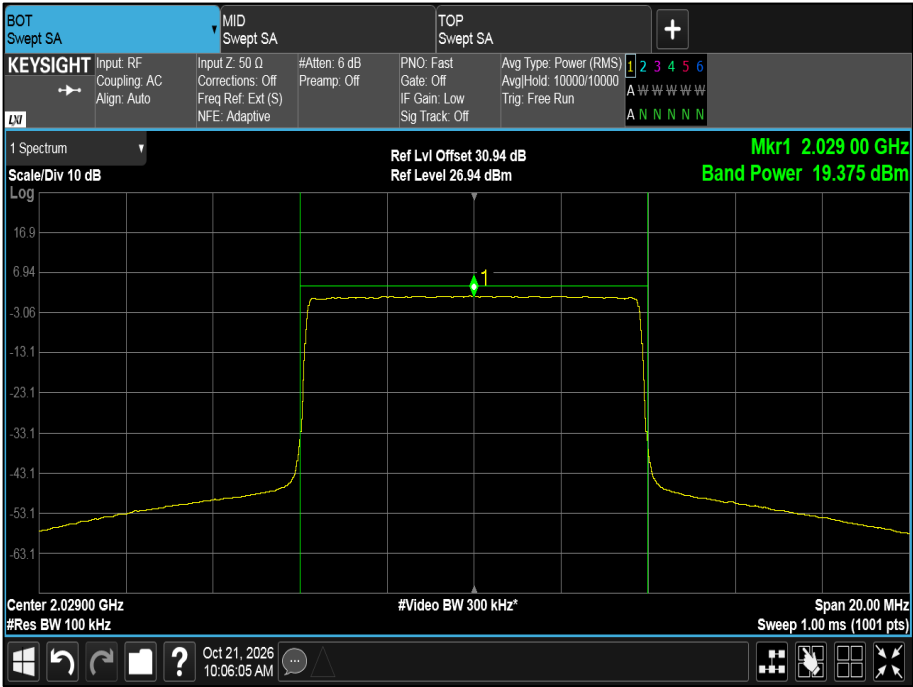


**Figure 53 – Power measurement, Bottom Channel, 2029.0 MHz, Modulation QPSK**

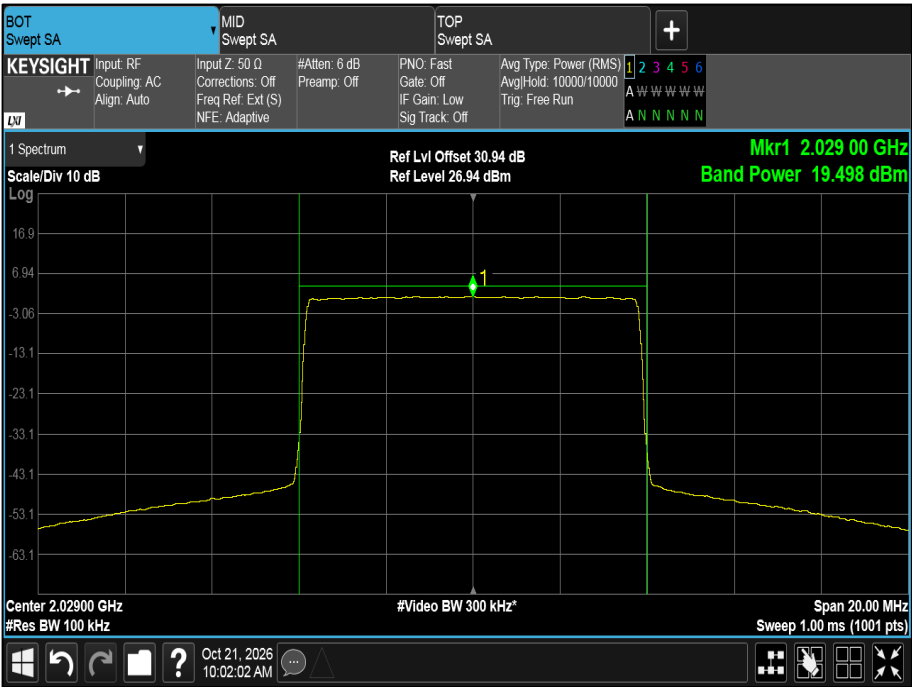


Figure 54 – Power measurement, Bottom Channel, 2029.0 MHz, Modulation 16-QAM

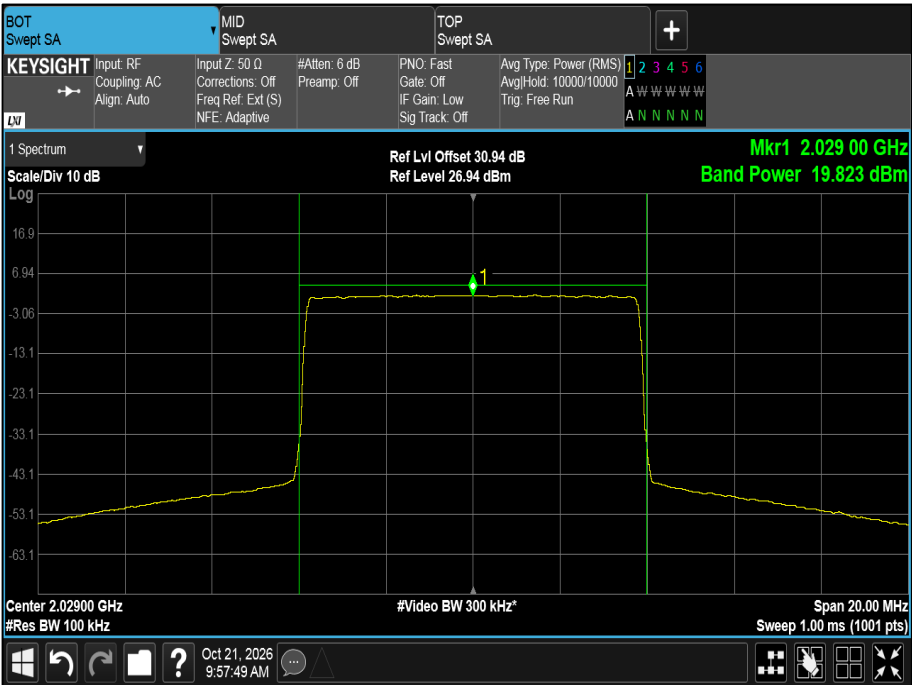


Figure 55 – Power measurement, Bottom Channel, 2029.0 MHz, Modulation 64-QAM

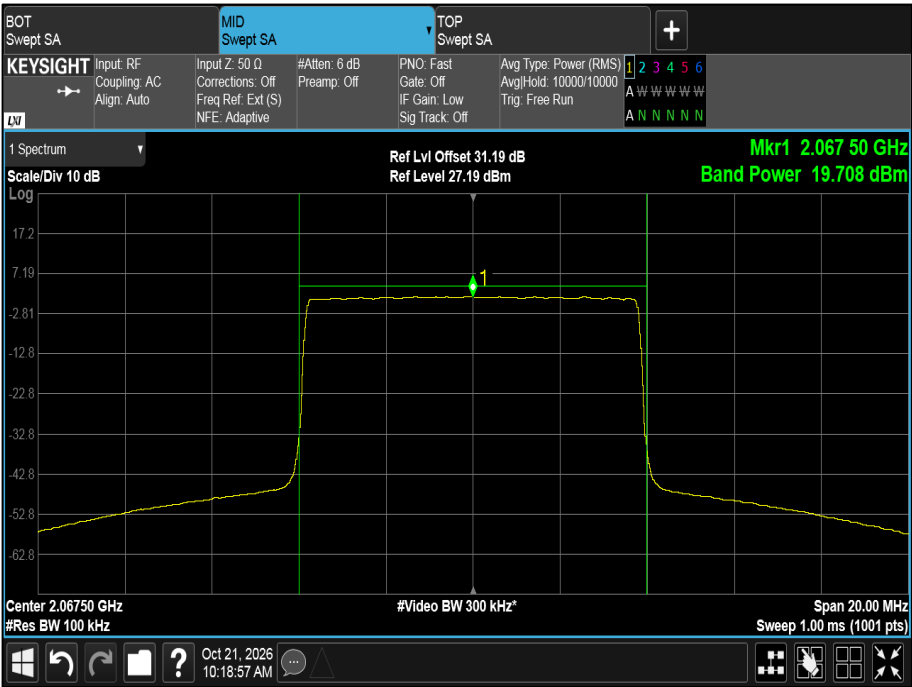


Figure 56 – Power measurement, Middle Channel, 2067.5 MHz, Modulation QPSK

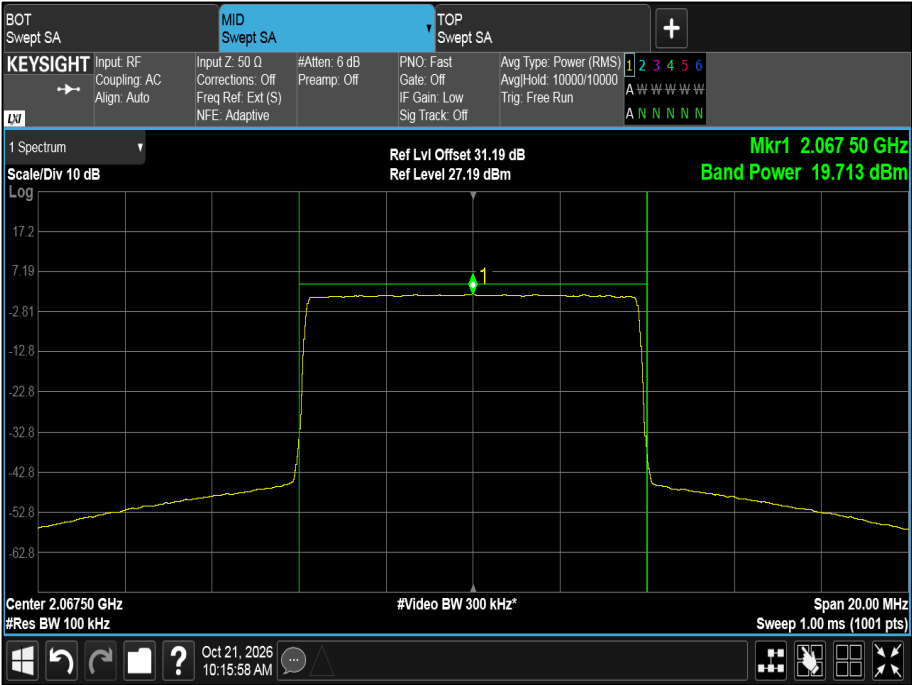


Figure 57 – Power measurement, Middle Channel, 2067.5 MHz, Modulation 16-QAM



Figure 58 – Power measurement, Middle Channel, 2067.5 MHz, Modulation 64-QAM

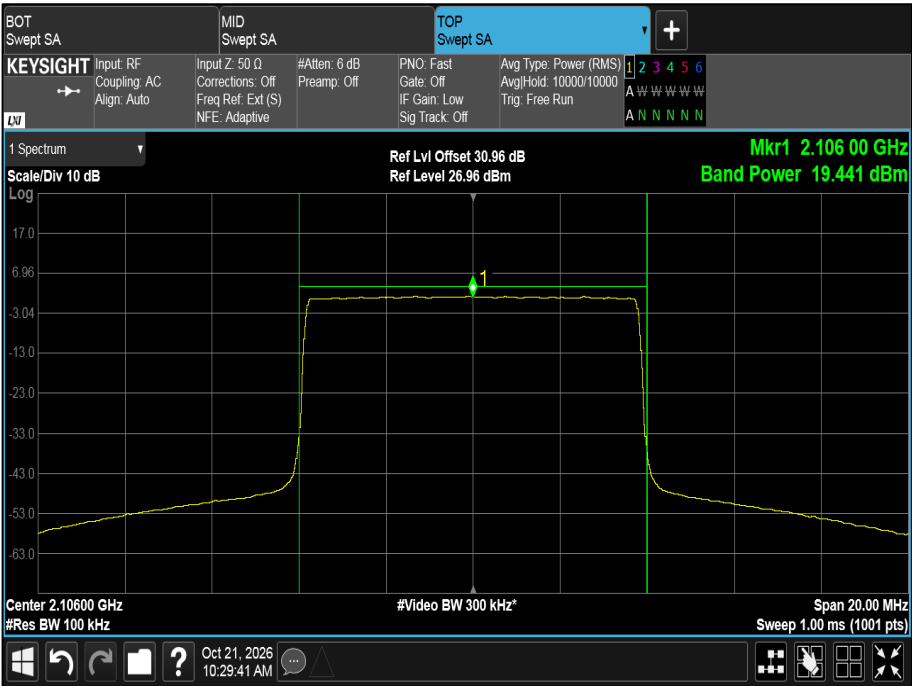


Figure 59 – Power measurement, Top Channel, 2106.0 MHz, Modulation QPSK

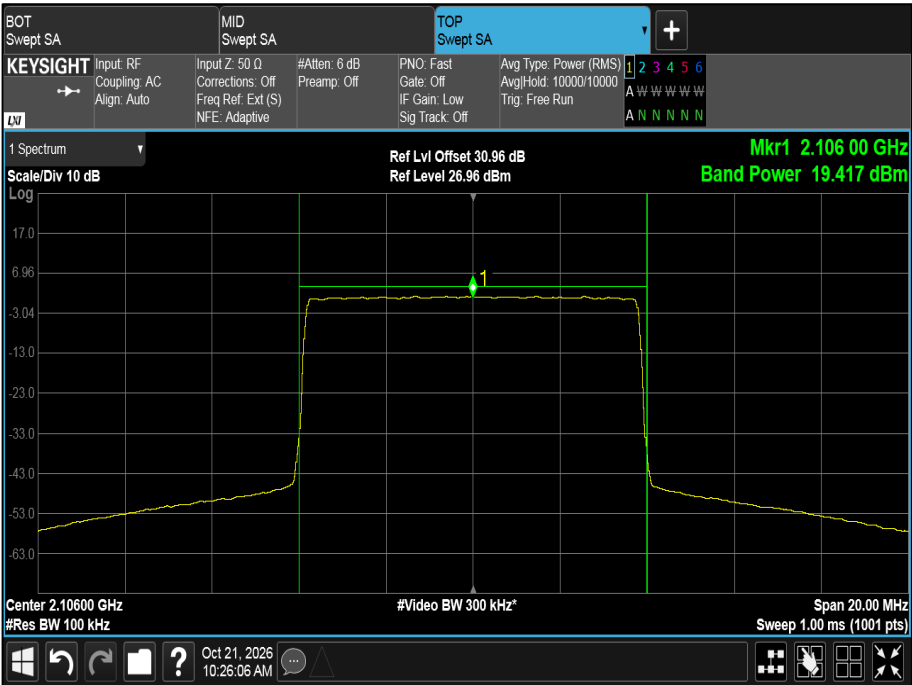


Figure 60 – Power measurement, Top Channel, 2106.0 MHz, Modulation 16-QAM

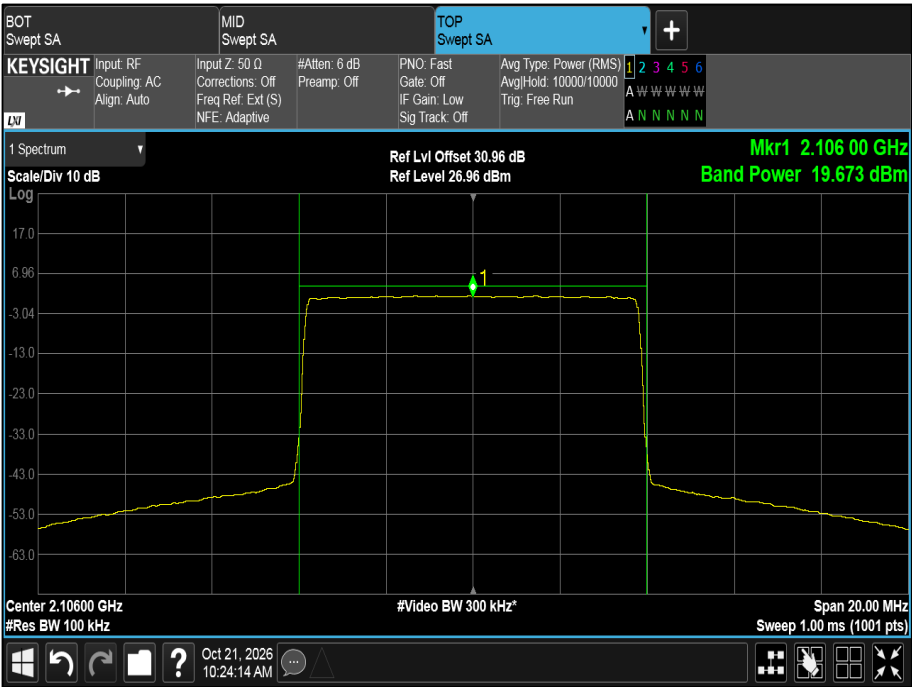


Figure 61 – Power measurement, Top Channel, 2106.0 MHz, Modulation 64-QAM

## 5 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

| Test Name                               | Measurement Uncertainty      |
|-----------------------------------------|------------------------------|
| Power and Emissions                     | $\pm 3.2$ dB                 |
| Frequency Stability                     | $\pm 114.218$ kHz            |
| Bandwidth Limitations                   | $\pm 187.105$ kHz            |
| Spurious Emissions at Antenna Terminals | $\pm 3.4$ dB                 |
| Radiated Spurious Emissions             | 30 MHz to 1 GHz $\pm 5.2$ dB |
|                                         | 1 GHz to 40 GHz $\pm 6.3$ dB |

**Table 34**

### Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.